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INDEX

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VOLUME 21 JANUARY-DECEMBER 1976

INDEX

Page

Editorial

Towards Recovery 5
A Second Thought Needed 85
Budgeting for Growth 125
Indian Economy on Suspension 165
National Wage Policy : Soul or Slogan ? 205
Thoughts on Amendments of Constitution 207
Soviet Value Diminished 240E
Beginning of the End of Marxism-Leninism 277
Third Measure 317
Revival after Repression 397
Oil Prices and World Peace 437

Review 7, 87, 127, 167, 279, 319, 439

Feature

Some Aspects of Integrated Rural Development 158
Jute under Competition 343
Employment and Prices 399
Prices and Employment Trends in India 472

Article

Agarwal N. L., and Yadav R. R.—Farm Labour Employment and Resources Use Efficiency in the Context of Green Revolution 7
Alam Mohammad Anwar—Level of Living of Agricultural Labour in Bihar : Case Study 4
Barthwal R. R.—The Nature and Behaviour of Cost in Indian Paper Industry, 1949-1964 1

Page

Barthwal R. R. and Nair K. N. S.—Development, Intensity of Crimes and Size of States in India 441

Bhattacharya Debesh—Some Technological Problems of Afro-Asian and Latin American Countries 33

Bose J.—A Note on Foreign Capital and Domestic Savings 147

Chakravarti Asok Kumar—A Review of the Attitude and Employment Potentiality of the Commercial Banks of India 401

Chatterjee P. K.—Economics of Farm Size 115

Chennareddy Venkareddy—A Look at a Possible Long-Run Continental and World Population 196

Desai Vasant—Role of Banks in Economic Growth 228

—Restructuring of the Public Sector Banks of India 321

—Restructuring of Banks in India : Panel's Approach 448

Dey P. B.—Importance of the Jute Industry to the National Economy of India—Problems and Prospects of Export Trade 367

Dutt S. N.—Relative Significance of the Parameters of Money Multiplier for the United States Economy, 1963-1974 151

Ghosh Ranen—Inflation and Economic Growth : Statistical Evidence 27

Ghosh Sankar—Planning to-day 311

Ghosh Sujit Kumar—New Horizon in Indian Taxation 281

Ghosh Tapan—Some Technological Problems of Afro-Asian and Latin American Countries—a Rejoinder 338

Grewal S. S. and Sidhu D. S.—Farm Incomes in Punjab : Myths and Realities 209

Krishnan Gopal—The Public Debt Controversy : A Rejoinder 236

Krishnan K. T.—The Public Debt Controversy 129

Krishnan K. T.—The Public Debt Controversy : A Reply 305

Lavania G. S., Bhalerao M. B. and Tewari M. P.—Commercial Banks and the Small Farmers 169

Lingayatwani N. S.—Talking of Tourism 430

Maitra Priyatosh—The Energy Crisis—Some Implications 49

Mishra G. P. and Vivekananda M.—Agrarian Structure and Weaker Sections in Rural India 17

Naidu Audikesavulu D.—World Consensus at Bucharest and India's Population Control Programme 89

Page
Naidu Audikesavulu D.—Nation-Wide Compulsory Sterilization and its Practicability in Less Advantaged States 241
Narayana D. L. and Narasimhulu K. Regional Variations in Andhra Pradesh 463
Pal D. N.—Agricultural Finance, Commercial Banks and Cooperatives 219
Patnaik R. M.—The Friedman Revolution 60
Prasad K. N.—The Classical Approach to the Nature of Economic Science : An Appraisal 8, 108
Rao Rammamohan and Acharya Sarthi—Total Factor Productivity of Small Scale Farms 293
Ray Kalyan—Increased Money Supply and Unbalanced Economic Development 175
Roy Himansu—International Tea Promotion Association : India's Point of View 389
Sahoo Basudev and Nayak U. C.—Effects of Wage Changes on Prices 240G
Saibaba G.—State of Indian Agriculture : Some Highlights of Agricultural Census 417
Sain K. and Bagchi Bhanudeb—Illiteracy and Development of Rural Economy 413
Sain K. and Kundu S. N.—Economics of Shallow Tube-well Irrigation in West Bengal : Benefit Cost Appraisal (A Case Study) 100
Sandhu H. K.—Export Performance and Foreign Exchange Earnings 345
Singh R. P.—Economics of Jute Cultivation in Selected Areas of Purnea District 360
Singh R. P. and Prasad Sankatha—Regional Disparities in Uttar Pradesh 255
Srivastava R. C.—Planning for Postgraduate Employment 193
Sur A. K.—Jute Mill Industry : Its Problems and Solution 385
Syed Afzal Peerzada—Breaking the Vicious Circle of Poverty : The Occupational Change Approach 297
Uzoaga W. A. and Okafor F. C.—The Private Sector in the Nigerian Economy 135
Vashist G. D.—Changing Pattern of Land Utilization in Himachal Pradesh 424

ECONOMIC AFFAIRS

Volume 21 January-February 1976 Nos. 1-2

Towards Recovery ?

Neither economic theory nor empirical verification of economic cycle establishes that hyper or very high dose of inflation, when suddenly assailed, can pick up a stable level of equilibrium free of inflation and clean of recession without going through a period of painful economic (and social) adjustments, adoptions and adaptations. If this in correct, then after the 'retreat' of the Indian economy from a 30 per cent inflation where does it stand now ? Is it under way of depression from the stage of recession or recovery from the stage of retreat ?

A straight answer to this vexed question is not possible partly because of the complex nature of the economy and partly because of the restricted nature of data. In any way, continuous fall in prices (taking this for granted) and rise in production cannot be correlated without contradiction to growth. Fall in prices and fall in production however do not conflict. That is a negative inflation as a fall from a high level of positive inflation indicates the dynamic of recession through unemployment, lay off and retrenchment, accumulations of inventories, unresponsive expansion of money and credit and growing crisis in external balance.

Those who are in positions and aware that the world economy has hardly picked up the road to recovery and the developing countries as a whole have developed a larger balance of payments deficits with no noticeable indication of reduction of imported inflation understand the weights and edges of an economy-in-retreat by command. In a mild but meaningful statement at the floor of Lok Sabha the Labour Minister Sri K. V. Raghunatha Reddy said that in 1974 about 40.2 million mandays were lost ; the loss was however less in 1975, 17 million mandays. After the Emergency the mandays lost were 1.6 millions. About 300,000 workers were laid off and several thousands were retrenched and some industrial units were closed during the last six months. The country's growth industries have been in difficulties. As many as 61438 workers were laid off in August 1975 alone in Jute and Engineering industries. Inventory accumulations have been a common feature. Monthly average production in Jute industry is 105000 tonnes but sales do not exceed more than 85000 tonnes, even all sales cannot claim to have fetched remunerative prices. The situation has become so grave that the government has rightly and timely appointed a committee to go into the matters. The Industry Minister Sri T. A. Pai has left a word of caution that the growing sickness of some industries reflects the distortions in the strategy of investment and planning, apart from the malpractices and inefficiency in management. The Deputy Chairman of the Planning Commission Sri P. N. Haksar in his own ways states the basic problems of the country's economy as 'resources gap', 'data gap', and 'export-import gap.' To which may be added importantly the 'communication gap' and the 'people's participation gap'. All these are fundamental points and problems not amenable to political pressure or cut-back process of economy. In simpliest language, it is easy to check inflation but difficult to push up the economy to take the road to stable growth. Inflation is not absolute ; it is the "side-effect"—at a certain stage becomes terrific—of making the economy advance rapidly, in the developing countries, and in the developed countries, of making the economy advance on the stable growth path. Speaking of ourselves, assume the economy has again taken the path of growth, the point is, what radical changes can be expected to have been contemplated or have been made in plan techniques and social outlook that the inflationary spiral will not raise its head again and shortly again ?

HAPPY 1976

The Economic Affairs conveys its best wishes to all its readers, writers and patrons on the eve of its entering the 21st year of publication.

INDEX NUMBERS OF WHOLESALE PRICES

		27. 12. 75	25. 1. 76
I	Food Articles	320.3	368.8
II	Fuel, power, light and lubricants	367.7	322.2
III	Industrial raw materials	256 8	315.3
IV	Chemicals	322.5	322.0
V	Machinery and transport equipment	259.1	254.7
VI	Manufactures	253.5	255.4
	All commodities	291·1	215·4

Review

Role of Nominee Directors of Financial Institutions : Management of Development Banks : Legal Aspects of Development Banking ; Siminar Papers, Management Development Institute, Delhi, 1975, Price Rs. 8.00, Rs. 10,00, and Rs. 16.00 respectively.

Managment Development Institute organized a seminar "to consider and articulate the role and responsibilites and functions and obligations" of nominee directors of financial institutions on companies "with a view to apprising the directors of their legal obligations and liabilities, promoting a wider understanding among directors of the part which they could play in the better and more effective managment of companies." The subject is innovative. But what may disturb one is who will be benefited by such seminars, the next nominee directors or the current ones ? Obviously, the former. Then for a rigorous training, should they be trained in a workshop or by seminars and or go the way of learning while doing ? Unless these questions are solved much of such seminars will remain as costly academic exercises of some angular persons.

The participants of the seminars seem to be not very clear in concepts of "nominee director." They differ on definition and scope of "nominee director". Dr. B.K. Madan is inclined to hold a nominee director as a non-dynamic person ; one whose job is more to represent the "eyes and ears" of his principal to maintain the "law-and-order type duty" than to give a business leadership exceeding the conventional limits where necessary. His nominee directors are in fact a danger to entrepreneurship. This has been voiced promptly by Mr. Harish Mahindra who does not like a "yes" man nominee director nor an objector to all matters. His own construction is however socially unacceptable. For what he wants is to go without (dynamic) nominee directors for the "aims and objects of the lending institutions are best achieved by adopting a constructive and positive attitude in the affairs of the assisted organizations". The seminars have, justly speaking, made no rigorous attempt to determine the definition and scope of a nominee director. Interestingly a participant of the seminar

(Continued on page 72)

The Classical Approach to the Nature of Economic Science : An Appraisal—I

K. N. Prasad*

The term 'Political Economy' occured in 1615 in the title of a book written by a French hardware manufacturer, called Montchretien.

Political economy was not systematic or specialised during the mercantilist period ; everyone was his own economist. It was then problem—or policy—oriented. Needless to say, mercantilism was neither a scientific school nor a scientific theory. It is an exercise in statecraft ; that is, it was meant for guiding the state in achieving a favourable balance of trade. Economic well-being of a nation rested on this balance, i.e., the stock of money gained. Besides, the mercantilists were interventionists for they wanted the state to meddle with the affairs and trade.

The physiocrats developed their world of ideas in the course of their discussion of topical problems concerning economic policy. The practical man and the philosopher united in the investigation of the basic theoretical truths. In other words, they were economic statesmen. They studied the economic phenomena of society as a whole and made general statements about their causal relationships. Their chief interest lay in giving an account of how the net product was distributed among the social classes, viz., the productive class (the farmers), the rentier class (the landlords) and the sterile class (the artisans). The political elements in their economic reasoning had an obviously "metaphysical character." They had an abiding faith in the 'natural order' or a 'divine plan', as ordained by natural law and as controlling social growth. They were non-interventionists. They believed in certain norms and wanted men to strive for their attainment. They concerned themselves with two major objects of economic analysis, namely, resource allocation and level of economic activity. They held that these two economic categories were inter-connected. According to them, maximum output depended on the pattern and the continuity of consumption and on the employment of a sufficient proportion of mobile resources in agriculture and activities allied to it, all capable of yielding a net product.

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To sum up, in the hands of the physiocrats like Quesnay political economy was nothing better than 'a system of rules and regulations.' The physiocrats furnished "a vivid picture of economic life, of its subordination to fixed laws, and of its interlacement with the social process as a whole." The entire development of the physiocratic system was "based on the pre-supposition that its doctrines were deducible from a particular philosophy, the rationalist and individualist philosophy of the Enlightenment." The apostles of that movement, believing as they did that social life was conformable to natural law, conceived the pursuit of self-interest to be the principal motive-force of economic activity, and consequently expected that individual freedom to pursue self-interest would result in a harmonious development of economic life. The foundations of physiocracy lay in the individualistic true view of economics and the motion that economic activity is subordinated to the laws of a mechanical causation. The deductive method developed from the basing of economics by the physiocrats on the motive of self-interest was working like a mechanical force.

Several authors maintain that both the mercantilists and the physiocrats treated political economy as a practical art and as a guide for the statesmen and the administrators. With them it was just a system, not a science. It consisted of *ad hoc* enquiries.' Marshall notes that "the first systematic attempt to form an economic science on a broad basis" was made by them. Schumpeter too is of the opinion that the basis for a modern theory of economics was firmly established by them.

However, the physiocrats fell into a confusion of thought, as Marshall alleges. They ' confused the ethical principle of conformity to Nature, which is expressed in the imperative mood, and prescribes certain laws of action, with those causal laws which science discovers by interrogating Nature, and which are expressed in the indicative mood." But Marshall admits that they gave to economics "Its modern aim of seeking after such knowledge as may help to raise the quality of human life."

Coming to the classical period, we find that the classical economists sought the great eternal truths and the laws of history. Modern price economics appears as 'pedestrian stuff' compared with their themes of enquiry. They all emphasised the autonomy of economics. Most of them stressed its analytical or scientific character. The leading ones among them confined themselves to economic analysis.

A belief in the natural law was an article of faith with the classicals. By the term 'law' or 'natural law' they meant what Marshall called 'statements of tendencies.' There was nothing providential about natural law and the classicals paid "lip service to the providential quality of the natural order" which they delineated. They isolated the economic phenomena (or motives) and abstracted them from the non-economic ones. They used the principles of isolation and abstraction for the purpose of carving out the domain of purely economic research. In this they were faultless and above reproach. They made tremendous contributions to the advance of their science by providing a method of analysing the economy and the economic laws which operated within it. They gave "the best analysis of the economic world up to their time, far surpassing the analyses of the mercantilists and the physiocrats. They laid the foundation of modern economics as a science, and on it the generations that followed built upon their insights and achievements.

Were we to accept the viewpoint of Haney, then we have to admit that the physocrats' attempt at formulating a body of positive principles, separate from morals, politics, and jurisprudence, gave economics "its first claim to be a science." Smith later clinched that claim. In his book economics became associated with a body of causal explanation of economic phenomena and the price system became the basis of economic science.

Professor Robbins has argued at length that the classical analysis was scientific It was definitely argued. It was not stated dogmatically. Common experience was its basis. Each stage of argument was illustrated by appeal to fact.

It appealed to general uniformities rather than particular instances. It presented principles of explanation applicable to a wide variety of circumstances. In short, it assumed the form and the objectives of a science in the Kantian sense. It passed from 'a series of *ad hoc* enquiries' to 'an analysis of general inter-connections.' The classicals were never tired of pinpointing the fact that the conclusions of economics rested ultimately on the postulates derived as much from the observable laws of production as from subjective introspection. They debated among themselves on the realism and relevance of the underlying assumptions of their theories. Everyone seemed to suggest that the predictions had to be checked against experience and everyone seemed to subscribe to the view that the theories should be capable of being falsified, for falsity was the hall-mark of a science. But no real effort was made in practice by anyone to propound such theories. Every contradiction in a theory was attributed to the disturbing causes or counteracting tendencies. These were equated with the exogenous variables, for ex., technical improvements, workers' attitude to the size of family, supply of entrepreneurship, and the like. A long-term point of view was generally adopted. Without the postulate of natural or universal laws the classicals appeared to aver that "no collection of truths, however well attested, could ever lay claim to the title of science." But such laws had none of that 'providential' 'finalistic' and 'normative' character so frequently dwelt upon by the physiocrats. To the classicals these laws were comparable to the physical laws and were clearly non-moral. "To say that political economy is a 'dismal science' because it shows that certain laws may have unfortunate results is as absurd as it would be to call physics a dismal science because lightning kills."

The classicals claimed that social phenomena, including history, had laws of their own, which could be discovered. They tried to present a complete picture of the economic process. Their picture abstract, as it was, was yet full of the quintessence of reality. In short, they theorised in order "to straighten out points that involved some logical complications." They assembled facts whenever they thought it useful to do.

Kolthammer writes, "In the early years of the nineteenth century men breathed the air of deduction. Science was the bodiless creation of logic. Starting from one or two simple propositions, reason proceeded to deduce cogently and inevitably therefrom a whole system of laws, relations, and consequences. Given that the method was sound, and its employment faultless, the only source of error must obviously lie in the first elements, the *principia*, whence reason hatched her brood. This was the plan on which Bentham, Austin, and Mill the elder did their work; the mode which Ricardo adopted." It is asserted by many that the classicals were aware of the distinction between 'science and economics' and 'art of policy' and, in practice, they were 'purveyors of recipes.' Moreover, they considered their policy recommendations to be scientific results which followed automatically from scientific, if not purely economic, analysis.

It is unnecessary to point out that materialistic utilitarianism and individualism found expression in the advocacy by the classicists of a body of rules of action, which is the art of applied economics.

We find that, in fact, the classical theory is blended with particular political maxims and principles. As a matter of fact, it evolved from humanities and moral sciences. It was characteristically teleological, as Robbins labours to demonstrate. Like all analysis of conduct it ran in terms of purpose. The stimulus to much of the abstract analysis noticeable in it welled from the classicals' interest in the practical problems of their day. It conjointed to the 'teleological and meliorative view of the social order a utilitarian psychology.'

The theory of economic policy in the classical political economy was a theory of economic and social reform. It was based on 'a systematic body of scientific knowledge.' Its prescriptions were derived partly from 'a systematic enquiry into the nature of economic relationships and their mode of development in different types of circumstances.' It paid regard also for the probable consequences of particular measures or policy recommendations. This regard was based on 'a comprehensive analysis of the economic system as a whole' This is in brief, what Robbins pleads.

On the other hand, the Marxians and the German Historians had argued that the scientific basis of the classical political economy was "just a facade." But Robbins is emphatic that it was, in essence, 'technological' or 'mystical.' Its claim for economic freedom was based on "metaphysical preoccupations of how the world ought to run rather than on scientific analysis of how it really would run if the conditions assumed were present." He notes further that it is the simile of 'the Invisible Hand' used by Smith that gave "extensive hostages to superficial criticism." He quotes approvingly Keynes, who points out that the classical tradition was "marked by a love of truth and a most noble lucidity, by a prosaic sanity free from sentiment or metaphysic, and by an immense disinterestedness and public spirit." Robbins speaks eloquently of "their integrity and transparent devotion to the general good."

The fact, however, remains that the classicals were social reformers and addressed their workes to the burning questions of their times. They 'shared the stick-in-the-mud' practical man's abhorrence of 'amusing theoretical toys.' They made their reasoning part and parcel of a general social ideas. They acted as judges. They took a prominent part in the fashioning of policy. They maintained that a theory of economic policy, in the sense of a body of precepts for action, must take "its ultimate criterion from outside economics." They found this test in 'the principle of utility.' They wanted all action, all laws, all institutions to be judged by this test. No laws or institutions were sacrosanct in themselves. All were subject to the test of ability to promote human happiness. The classicals were 'individualistic utilitarians.' They believed that what was 'greatest hapiness' was not imposed from outside. It was a happiness to be judged by the individual concerned. Such individualism was a norm of classicism.

The classicals' individualist norm did not involve a denial of the existence of necessity of meeting communal needs, such as defence, street lighting and sanitation. It did not either involve denial of the utility of 'paternalism' in respect of children and backward peoples at least temporarily during the years of transition The classicals were individualists as regards both ends and means They believed in positive state action. They never conceived of the system of economic freedom as arising *in vacuo* or functioning in a system of law and order so simple and minimal as to be restricted to the functions of the night watchman. They wanted to make private monopolies public property. They delegated to the state education and care of the old and the children. They approved of state intervention in those areas where self-interest was un-enlightened, such as employment of children and prospective method. The tone of their proposals for economic reform was not only "pursuasive and moral" but also at once "sentimental and austere", with "the flourishes of abstract theory kept in check by a desire to preach social amelioration", as Blaug elucidates.

We may profitably reproduce here a point made by Robbins : "Viewed as a system of prescriptions the chief aim of classical thought was the improvement of the condition of the people especially the labouring classes...the ultimate intention of policy was whether in the long run it tended to rise in the equilibrium level of wages."

From this it should not be inferred that the classicists were revolutionaries. They did not advocate a violent over-throw of governments, nor did they want the total abolition of the historic basis of society. They were mere critics of some existing institutions and habits. They had definite proposals for what they deemed to be an 'improvement', which they fervidly advocated.

According to a study by Myint, on balance, the classics were concerned more with the problem of increasing the total physical output, which is a technical problem, treated at the physical level of analysis and less with that of maximising consumers' satisfactions by choosing between alternative methods of using given resources, which is an economic problem treated at the subjective level of analysis.

In Blaug's estimate, the function of the classical economic analysis was to reveal the effects of changes in the quantity and quality of the labour force on the rate of growth of aggregate output. It examined effects of increase in the quantity and quality of resources on economic development in an environment in which wants expanded dynamically. On this estimate, the allocative problem is present in Smith as well as Ricardo (see the latter's chapter on foreign trade). But the problem of growth and development is met with more in Smith than in Recardo. Were we to define economics 'as an engine of analysis' or as 'a method of thinking rather than a body of substantive results', then Ricardo is certainly unequalled.

Another notable feature is that the classicals were pre-occupied with the levels of incomes, both absolute (rates of rent, wages and profit) and relative (proportions or ratios of rents to wages and wages to profits). This Cannan dubbed as the genuine distribution problem. The value problem came to be appraised as second in importance to the distribution problem. That is to say, the former was looked upon as a by-product of the latter. There was no discussion in the classical political economy of either personal or functional income distribution as found in the neo-classical economics (which Cannan branded as a pseudo-distribution problem). The third characteristic feature of the classical political economy was that it studied the crowd, and not the individual.

Finally, Smith, Say and James Mill focussed their attention on the causes which made production per head greater or lesser. Theirs was therefore an enquiry into the nature and causes of wealth.

Robbins comments that "classical thought, whether on matters of theory or on matters of policy begins, not with Malthus and Ricardo but with Hume and Adam Smith." He adds, "In particular it is a fatal mistake to regard the Ricardian system as something coming into the world *de novo* with no background of common assumptions which it shared with its predecessors and no spur to speculation save the native intellectual force of its inventor. There is a vast extent of analysis and prescription which the generation of Malthus and Ricardo more or less takes for granted, the essential work having been done by Hume and Smith ; and a great deal of what they do themselves is to be regarded, not as a series of propositions thought out in a void, but rather as an attempt to correct or improve propositions and explanations which are already to be found in the *Wealth of Nations*". Robbins further adds that Mill avowedly took the scope of the *Wealth of Nations* as the model, for "anything less would have failed to reproduce the essential basis of the classical outlook".

The goal of political economy, as set out in the *Wealth of Nations*, was "to increase the riches and the power of a country". In Smith's book political economy became natural science based on the observation and analysis of the given facts. Smith tried to approach economic phenomena as a scientist. For him the society was fundamentally a living organism.

In the Smithian exposition the laws that regulated the formation of exchange value were also the laws which explained the creation of wealth. They were, in fact, the laws of political economy or the fundamental laws of economic motion. Smith made the theory of prices the fulcrum of economic theory in general. Put differently, this implies that the laws of prices were also the laws of distribution. Spann believes that in the *Wealth* of *Nations* economic life appeared as "a concatenation of processes of exchange", and not as a "concatenation of economic functions and institutions" that one comes across in physiocracy.

Emulating the example of Newton, Smith starts off by laying down a principle which governs the behaviour of the economic micro-units. This is the extremum principle which, according to Lowe, is one of the two prerequisites of the law of supply and demand, the other being "stabilising expectations." This principle is the economic counterpart of the Newtonian law of universal gravitation. It matters very little whether this principle is interpreted as an expression of a basic feature of invariable human nature or is taken as a heuristic principle of purely explanatory and theoretical significance, as Gurwitsch endeavours to argue. In both Newtonian science and Smithian political economy the macro-condition of the system results inexorably from the behaviour of the members of the system. Both apply the hypothetico-deductive method by considering a law of micro-behaviour and the initial state of the system as known. Both try to deduce this from the laws of motion of the system and its future states.

Smith possessed "unsurpassed powers of observation, judgement and reasoning," He was the first to write a treatise on wealth in all its prime social respects. As McCulloch put it, "The *Wealth of Nations* was the first work in which the science was treated in its fullest extent, and in which the fundamental principles that determine the production of wealth were established beyond the rich of cavil and dispute." Smith always worked his way towards the truth, *although* "*he had* not quite got rid of the confusion prevalent in *his time* between the laws of economic science and the ethical precept of conformity to nature." Sometimes he regarded it as the province of the economist to expound a science, and at others to set forth a part of the art of the government." When he sought for causal laws, he used scientific methods. But when he uttered practical precept he generally knew that he was only expressing his own view of what ought to be, even he seemed to claim the authority of nature for them. He was the first to make a careful and scientific inquiry into the manner in which value measured human motive. He saw distinctly that while economic science must be based on a study of facts, the facts were so complex that they generally could teach nothing directly ; they must be intrepreted by careful reasoning and analysis. He "did not very often prove a conclusion by detailed conduction". "The data of his proofs were chiefly facts that were within everyone's knowledge, facts physical, mental and moral. But he illustrated his proofs by curious and instructive facts ; he thus gave them life and force, and made his readers feel that were dealing with problems of the real world, and not with abstractions ; and his book, though not well arranged, is a model of method" (Marshall). It follows from the foregoing that Smith sought to arrive at generally valid and applicable knowledge by a universal study of historical facts and forces. But there was always something of the reformer in Smith's attitude. *The Wealth of Nations* is utilitarian in its hard core. It is devoted to 'expediency', as Mrs. Robinson points out. Hume was the original fountain-head of utilitarianism. Bentham's 'felicific calculus' was an attempt in this direction. Both Hume and Bentham were concerned with "the sphere of broad appraisals rather than quantitative computations".

(Continued)

Agrarian Structure and Weaker Sections in Rural India

G. P. Mishra* and M. Vivekananda*

Of the 20-point economic programme declared by the Prime Minister, the most important relates to the reforming of the rigid rural society.[1] The main objective of this reform is to evolve a process of change in the agrarian structure of production relations for making the development process of planning conducive to growth with social justice. That is why a somewhat special stress is laid on land reform and on other policy measures for improving the economic lot of the weaker sections of the society.

The purpose of this paper is to throw some spotlight on the agrarian structure of production relations and the process of change that has taken place in that structure with a view to judging its conduciveness for the betterment of the weaker sections of the society in rural India.

Agrarian Structure

As we experience from the spurt of new farm technology in the sixties, we find that the new agricultural strategy, with emphasis on the use of a package of modern inputs and practices, has a built-in bias towards the promotion of inequalities and poverty galore. This bias is supposed to get built into the new strategy because of the very structure of Indian agriculture in which it is adopted. The structure of Indian agriculture having unequal pattern of land ownership distribution displays three basic agrarian production relations—owner-operator, leaseholder, and sharecropper. The owner-operator is one who owns and operates his own land. The leaseholder cultivates land on lease without owning it and pays the owner of that land either in cash or in kind fixed by the landlord on a contractual basis. The

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*Institute for Social and Economic Change, Bangalore.

[1] Research Bureau, The Economic Times (August 7, 1975), 'Farm Labour : Deplorable Living Conditions'.

sharecropper is one who does not own land but cultivates it on the basis of a mutual contract reached between him and the actual owner of land for equally sharing produce and costs between them. This agrarian structure of production relations indicates that the technique of production will differ from one to another. In the first catagory of production relations, the technique of production by owner cultivator is mostly wage-labour in operation.[2] The technique of production used by the share-cropper and leaseholder is, by and large, family labour-based in nature. Following these two techniques of production, the main aim is to maximise surplus, and that of the family labour-based technique is to optimise total produce. The agrarian structure of such production relations having dual mode of production.

We find two main categories of cultivators—land-owning and tenant-cultivators. The land-owning cultivators may be marginal, small, medium, and big. And so the use of wage-labour technique will vary from one category of land-owning cultivators to another. But the tenant-cultivators use mostly family labour-based technique of production in agriculture. This structure of production relations exist in the rural economy because of the unequal distribution of land ownership. In addition to these relations, there are a large number of landless poor who do not own a piece of land but work as labourers in the economy.

Institutional dualism co-existing with technological dualism. The former exists because of the operation of a dual mode of technique in agriculture. This dualsim is, in fact, a product of that institutional dualism. The structure of production relations indicates that the rural economy of India is still under the frame of semi-feudalism[3], if that structure really exists therein.

The agrarian structure of production relations has been subject to some change with the adoption of some land reform measures from time to time. As a result, the degree of tenancy has declined and the number of landless households has gone down. This change has been on account of certain policy measures adopted by the Government —Central as well as States—for acquiring surplus land in order to distribute it to the landless poor and for conferring right of possession and ownership on the tenants who have been cultivating land for a long period of time on lease. As Table 1 shows, we find this trend of decline in tenancy and landless households since the inception of planning in India. The proportion of the landless labour households declined from 23.05 per cent in 1953-54 to 9.34 per cent in 1971-72. The proportion of operated area leased-in also decreased significantly from 35.7 per cent in 1950-51 to 1.12 per cent in 1971-72. Similarly, the proportion of tenant households also went down to 2.23 per cent in 1971-72 from 31.32 per cent in 1953-54. The rate of decline in landless households is attributed to the distribution of surplus land acquired by the Government either through the partial implementation of land reform measures or through the Bhoodan Movement or through the voluntary declaration of surplus land by some landlords themselves. The degree of tenancy is supposed to have gone down because of two factors :

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[2] The degree of wage-labour intensive technique of production depends on the size of land holding ownership. The small or marginal farmer generally employs family labour-based technique of production.

[3] Sen, R. K., Indian Economic Growth—Constraints and prospects, Orient Longman Ltd., 1973, pp. 7-23.

Table 1

Change in Agrarian Structure

Year & Source of Data	Proportion of Landless	Proportion of Operated area Leased-in	Proportion of Households operating leased-in area
1950-51 (a)	—	35.7	—
1953-54 (b)	23.05	20.34	31 32
1960-61 (c)	—	12.53	16.78
1961-62 (d)	11.68	10.70	12.17
1971-72 (e)	9.34	1.12	2.23

Sources : a) All India Agricultural Labour Enquiry, Ministry of Labour, Government of India.

b) National Sample Survey, Eighth Round : July 1954. April 1955.

c) National Sample Survey, Sixteenth Round, July 1960. June 1961.

d) National Sample Survey, Seventeenth Round, Sept 1961, July 1962.

e) All India Debt and Investment Survey, 1971-72, RBI.

1. Sub-division of land due to partition in family.
2. Conferring the right of possession or ownership of land to the tenants who were cultivating it on lease from the landlord or from the Government.

However, some studies[4] in the context of Indian tenancy observed the under-reporting of tenancy as the cause of its reported decline. That is why the significant proportion of decline in tenancy is doubted. Our primary investigation in the context of 'Canal Irrigation in Bellary district' experiences partition in a family owning a large size of farm due to the fear of proposed land ceiling measures and the under-hand operation of leasing-out land by the owner to the tenant responsible for the under-reporting of tenancy in the ten villages of that district in Karnataka. The RBI field study[5] points out that in many districts, 'either all or the majority of tenants without written leases indicated that they could not displease the landowners or that the landowners were not willing to be a party to written leases'. All this suggests that a large number of tenant-cultivators still exist without having a genuine report, though Table 1 tells the story otherwise.

Growing Weaker Sections

The above discussion shows that the change in the agrarian structure has been significant in terms of decline in tenancy and landless households. But the growing number as well as proportion of weaker sections in the rural economy indicates that the change in the agrarian structure has not been inconducive to growth with social justice. The proportion of households belonging to the category of weaker sections has increased from 75.2 per cent in 1961-62 to 78.1 per cent in 1971-72. This is what one can observe from Table 2 in aggregative perspective.

The landless category of weaker section shows decline in terms of number as well as proportion. The marginal farmer households increased to 41.5 million in 1971-72 from 35 million in 1961-62, indicating 18.54 per cent increase during the period of a decade. The number of small farmer households went up at the rate of 8.83 per cent during the same period. Taking all the above categories of households, Table 2 shows that a little more than two-third of the rural households is economically poor and weak; while one-third is

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[4] Dharam Narain & P. C. Joshi, 'Magnitude of Agricultural Tenancy', Economic and Political Weekly, September 27, 1969.

Sanyal, S. K., 'Has There been a Decline in Agricultural Tenancy', Economic and Political Weekly, May 1, 1972.

[5] Reserve Bank of India, 'The Small Farmers (1967-69)', A Field Survey; p. 68.

Table 2

Weaker Sections in Rural India

Category of Household	Number of Households (in thousand)		Proportion of Households (in percentage)	
	1961-62	1971-72	1961-62	1971-72
1	2	3	4	5
Landless	8464	7281 (−13.97)	11.68	9.34
Marginal Farmer owning less than 2.5 acres	35063	41564 (+18.54)	48.38	53.32
Small Farmer owning less than 5.0 acres	10984	11954 (+8.83)	15.15	15.33

Sources : Columns 2 & 4 based on NSS, 17th Round, No. 144. Columns 3 & 5 based on All India Debt and Investment Survey—1971-72, RBI (Volume 1), 1975.

economically rich and powerful. The growing number and proportion of the weaker sections of population in the rural society show that the changing structure of rural India has not been in communsurate with social and distributive justice. The distribution of land ownership holdings indicates that the large household sector, which is economically poor and weak, owns only about 20 per cent of the total while the small household sector owns 80 per cent of that area. Land being the most important source of production and asset holding, matters most in the process of growth and change for bringing about social distributive justice.

Green Revolution and Weaker Sections

The period of the 1960s marked a profound change in Indian agriculture. This change was actually brought about by the HYV technology which was adopted by farmers with the event of new agricultural strategy. With the spurt of this new technology, Indian agriculture experienced 'quick-yielding' changes in the field of food production leading to the so-called 'Green Revolution'. As a result, a new dimension of hope mixed up with challenge was opened up due to the adoption of the new farm technology with a package of modern inputs and practices which led to certain consequential distributive effects in agriculture.

A number of studies were made in the sixties for examining the distributive effects of the new technology in the context of Indian agriculture. Most of these studies[6] observed that the new agricultural strategy, with emphasis on the use of a package of modern inputs and practices, has a built-in bias towards the promotion of inequalities and poverty galore. This bias gets built into the new agricultural strategy because of the very agrarian structure of production relations existing in rural India makes the use of new farm technology more favourable and beneficial to those farmers who own and operate a large size of farm than the farmers owning and operating a small or marginal size of farm because of the following :

(a) they have greater control over the supply of scarce agricultural resources[7],

(b) they have greater access to credit with their greater 'credit-worthiness'[8], and

(c) they possess greater 'technical dynamism'.

The small and marginal farmers having small control over the supply of scarce agricultural resources and 'credit-worthiness' find difficulty in competing with large farmers. As a result, the process of converting some of them as landless operates leading to increase in the number of agricultural labourers. The declining number of cultivators from 99.6 million in 1961 to 78.6 million in 1971, and the increasing number of agricultural labourers from 31.5 million in 1961 to 47.1 million in 1961, as given in Table 3, bear a witness to this fact. Our primary investigation in the ten villages of Bellary district in Karnataka also confirms it empirically. 'From many field studies it has been found that, consequent upon the land reforms legislation, many

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[6] P. K. Bardhan, "Green Revolution and Agricultural labourers", EPW, Nov. 14, 1970 ; Chowdhary, B. K. "Income Disparity and HYV ; EPW, Sept. 26, 1970 ; Sen, R. K, "Resource Association in Indian Agriculture", EPW. Sept. 25, 1971 : G. Jha. "Small Farmers and HYV Programmes", EPW, April 14, 1970 ; Madalgi, S. S. "Estimates of Farm Income in India—1951-52 & 1967-68, "EPW, March, 28, 1970, Sen, A. K., "Poverty, Inequality, and Employment", EPW. Special No. 1973 ; Bardhan, P. K., "On the Incidence of Poverty in Rural India", EPW Annual No. 1973., Mishra, G. P., "Green Revolution—Changes and Challenge, Eastern Economist, September 29, 1973.

[7] Carl H. Gotsch and Walter P. Falcon, "Technical Indivisibility and Distribution of Income ; A Mixd Integer Programming Model of Punjab Agriculture", Food Research Institute's Studies.

[8] Rao, C. H. Hanumantha, "Farm Size and Credit Policy", Economic and Political Weekly, December 26, 1970.

Table 3

Total Labour, Cultivators and Agricultural Workers

Year	Total working Force	Cultivators	Agricultural Labourers
1961	188.8	99.6	31.5
	(43.0)	(52.8)	(16.7)
1971	183.3	78.6	47.1
	(33.5)	(42.9)	(25.7)

tenants have been deprived of their existing tenancy rights through the device of resumption of land by landowners for self-cultivation, reducing them thereby to the status of agricultural labours'[9]. All this shows that the new agricultural strategy created more weaker sections in number than what was expected to reduce their number in view of the goal of growth with social justice.

The adoption of the new agricultural strategy benefits large farmers by raising their capacity to produce market surplus output and by making them free from market dependence for their food consumption. They are made all the more benefited in the case of agricultural price rises.[10] They are made so because they have larger capacity to produce market surplus output with least dependence on market for consumption. But the small and marginal farmers become worse off because of their small and marginal capacity to produce market surplus output having greater dependence on market for consumption. But the small and marginal farmers become worse off because of their small and marginal capacity to produce market surplus output having greater dependence on market for their subsistence consumption. The landless poor people are the worst lot in this respect, as they do not possess a piece of land to produce and they fully depend on market for their subsistence consumption. Hence the adoptation of the new technology in the given agrarian structure creates social inequalities, as a consequence of which the weaker sections of the society are made economically helpless.

Lot of Weaker Sections

The process of change in the agrarian structure of production relations, being status quo in nature, has strengthened the economic position of the large farm sector on the one hand, and, on the other, has led to increase the number and proportion of the weaker sections with the spurt of new farm technology in rural India. K. N. Raj[11] has shown in his study the case of dualism which grows much wider in the context of technological change in agriculture. Amit Bhadur[12] regards the in-built structural obstacles to technological change in a small peasant agricultural economy responsible for widening the gap between the socio-economic status of the small and large farm sectors in the Indian rural economy. These studies and the discussion in foregoing sections of the paper indicate the institutional arrangements of the rural economy responsible for creating the weaker sections and worsening their economic lot in the context of technological change.

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[9] R. B. I. Field Study, op. cit, p. 16.

[10] Singh, M. L. and Mishra, G. P., "Agricultural Price Policy", the Economic Times, Jan. 21, 1972.

The proposition of landless labour households increased from 50 per cent in 1950-51 to 57 per cent in 1956-57. The NSS 18th Round refers to 61 per cent increase in the landless labour households. Bardhan has also estimated 63 per cent of the total labour households as landless. The All India Debt and Investment Survey—1971-72 presents the land owning situation of the agricultural labour households as follows :

Table 4

Category	Land owned in Acres	Percentage of Households
I	Nil	26.61
II	0.01-0.50	68.98
III	0.50 and Above	4.40
Total		100.00

Table 4 shows about 27 per cent of the agricultural labour households is landless. In this respect, the proportion of the households of that class has gone down. If the second land-owning category is taken into account, about 69 per cent of the households is landless. These labour households actually own a very insignificant size of farm. A sizable number of such households appears to be land-owning but the size of land ownership being insignificant matters least in the given agrarian structure. So far as the income of agricultural labour households is concerned, there is no enough macro-level statistical evidence to acertain change in it. However, the Second Labour Enquiry and the NSS 18th round show an increase in the average annual income per agricultural labour household from Rs. 385.38 in 1956-57 to

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11. Raj. K. N., "Some 'questions concerning growth, Tranformation and Planning of Agriculture in Developing Countries". Journal of Development Planning, No. 1, 1969.

12. Bhadur, A, "Agricultural Backwardness and Semi-Feudalism", Economic Jouurnal, March 1973.

Rs. 660.19 in 1963-64. As Table 5 shows, it is found that the major source of their incomes is agricultural wages, i.e. agricultural labour put in agriculture.

Table 5

Average annual income per labour household, All-India

Source of Income	Annual Income Rs.		Percentage to Total	
	1956-57	1964-65	1956-57	1964-65
1. Cultivation of land	32.15	42.52	8.3	6.4
2. Agricultural wages	281.08	544.85	72.9	82.4
3. Non-agricultural wages	56.96	33.33	14.8	5.1
4. Other sources	15.19	39.47	4.0	6.0
5. Total	385.48	660.29	100.00	100.00
Per capita per day income	0.24	0.40		

Source: NSS, 18th Round, No. 134 (Feb. 1963—Jan 1964).

But the per capita per day income is very low at 40 paise, though it went up from 24 paise in 1956-57. The NCAER study 'Additional Rural Income Survey, New Delhi, 1974' shows that average annual income per landless was Rs. 1718 in 1970-71. Of this income, the cultivation of crops contributed only 2.4 per cent. This implies

Table 6

Distribution of income by size of ownership holding of rural households

Size of land owned (in 1970-71) (in hectares)	Estimated percentage of households	Average Income in 1970-71 from (Rs) All sources	Crops
1	2	3	4
Landless	32.4	1718	42
0-1.0	24.5	1878	663
1.0-2.5	22.9	2854	1809
2.6-4.5	10.7	3779	2912
4.6-6.5	4.3	4634	3414
6.6-8.5	1.9	5267	4551
8.6-10.5	1.3	7042	6279
10.6-14.5	1.3	6723	5487
Over 14.6	0.8	12741	12741
All classes	100.0	2649	1382

Source: "Additional Rural Income Survey, NCAER, New Delhi, 1974."

that the main source of income for the landless is wage-labour. The NCAER study shows that the bigger the farmer, the greater the average income per household and so conversely. It also points that the larger the size of land ownership holding, the greater the contribution of crops in the generation of income and vice-versa. The range of income between landless and the largest farm varies from Rs. 1718 to Rs. 12741. These income relations among different categories of the rural households highlight the importance of wage-labour for the weaker sections in the process of their income generation. The agricultural wages, being the major part of incomes for the weaker sections, have not increased considerably. Some recent macro studies[13] made in the context of agricultural wage bear a witness to this fact. The NSS 25th Round (April-June 1971) concerning the weaker sections indicate the significant rise in such wages. Moreover, the employment status of the weaker sections is also not very much improved as the earlier NSS reports and the third Labour Enquiry Report (1963-64) showed.

Conclusion

The agrarian structure of production relations has undergone some change, so far as tenancy and landless are concerned. But the basic structure of owner-tenant, owner-cultivator and agricultural labour relations remains intact in the rural economy. As a result, the process of growth brought about by the new agricultural strategy has been uneven in distributive effects. The experience of agricultural development during the sixties shows the expansion of commercial capitalism in the large farm sector and the growth of proletarianisation with growing number of weaker sections in the small peasant sector. This implies that the change in the rural economy has not been conducive to growth with social justice. The reason is the existing agrarian structure of production relations which has a built-in bias for the large farm sector but in-built structural obstacles to a strategy for growth in the small peasant sector. Thus it should be moulded or transformed in order to make it conducive to distributive growth.

[13] Jose, A. V., "Trends in Real Wage Rate of Agricutural Labourers", EPW, May, 30, 1974,

Herdt, W. R. & Boker, E. A. "Agricultural Wages, Production and High-yielding Varieties", EPW. March 12, 1972.

(Continued on page 32)

Inflation and Economic Growth : Statistical Evidence

Ranen Ghosh*

I. Introduction

If one wants to collect statistical evidence on the relation (or association) between inflation and economic development, one ought to be careful in identifying the variable(s). For inflation, price level should be the appropriate variable. For economic development, it is difficult to find a single variable. However, for certain purposes, gross domestic product (gdp) can be an appropriate variable. If one takes wholesale price level as the variable for inflation, one faces the criticism that it is not a 'good' variable to represent 'domestic' inflation : wholesale price index is heavily weighted with prices of exports and imports and tends to be measures of domestic equivalent of international prices rather than measures of domestic prices. Dorrance (1) supports cost-of-living index as the least unsatisfactory measure of domestic prices, i.e., of the degree of price inflation. (International Monetary Fund uses the index in their study of inflation.

Gross domestic product can be estimated at (i) current prices and (ii) constant prices. For study of the relation and economic growth, gdp at current prices will show positive correlation with price level. This is so, because gdp at current prices includes very much the influence of current prices. On the other hand, gdp at constant prices indicates the level of real income free of the influences of current prices (see Ghosh, 2(a)). Therefore, gdp at constant prices is to be used in such a study. The use of gdp per capita is also to be considered for its suitability in such a study as the present one. Gross domestic product per head of population is in some sense better indicator of economic development, since it includes the influences of an important demographic factor, i e., number of population.

Dorrance has made his own study, as well as compares his own with that of Tun Wai (4). Dorrance observes that for the less

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developed countries in general, the findings proved to be inconclusive ; however, he further observes, for most of the small countries for which the available statistics cover periods for which the rates of price increase differ significantly, the evidence suggests that the rate of growth was higher when the rate of inflation was lower. He observes that it is possible to come to somewhat more positive conclusions suggesting that rapid increases retard development, if one examines Tun Wai's data more closely.

Dorrance has not attempted to obtain a quantitative measure of association between increase in price and increase in per capita income. He concludes that causal relationship is not possible to find, by using only these two variables. He faces a few serious difficulties in such a study. According to him, there are serious conceptual as well as statistical difficulties not only in measuring per capita gdp in terms of national currency but also in determining the appropriate conversion factors for the estimation of dollar equivalents, the welfare implications of different patterns of income distribution in individual countries, and the conversion factors for different income levels. Hence, little significance should be given to the numerical relations of the measures ; they provide an ordinal rather than a cardinal ordering.

II. Statistical Analysis

The following model will be used in this paper to study the relationship between inflation and economic growth in less developed countries which belong to economic class II of the U.N. classification of Nations.

(*a*) Use data on consumer price index (P).

Calculate $(\Delta P/\Delta t)/P_{t-i}$ this is the growth rate of prices ; $\Delta P=P_t-P_{t-i}$.

(*b*) Use data on per capita gross domestic product (Y).

Calculate $(\Delta Y/\Delta t)/Y_{t-i}$: this is the growth rate of per capita income ; $\Delta Y=Y_t-Y_{t-i}$

In these formulas, $\Delta t=t-(t-i)$

(*c*) Rank these two growth-rates for countries included in the study.

(d) Calculate rank correlation coefficient using a suitable formula.

(*e*) Conclude by means of statistical inference.

By ranking these growth rates, most of the measurement problems have been avoided and are made harmless for the present study. It is hoped that these measurement problems have not seriously upset the ranking scheme. It is likely that this hope is realised more often than not. The relevant data are collected for a few selected countries of Asia, Africa and Latin America ; Asia (6 countries), Africa (10 countries), Latin America (11 crountries).

A. Calculation of Rank Correlation Coefficient

Two formulas are used in the present study.

(a) Spearman Rank Correlation Coefficient :

$$r_s=\frac{\Sigma x^2+\Sigma y^2-\Sigma d^2}{2\sqrt{\Sigma x^2}\sqrt{\Sigma y^2}}$$

Where $\Sigma x^2=\frac{N^3-N}{12}-\Sigma Tx$; $\Sigma Tx=\frac{t^3-t}{12}$, where t=number of tied observations at a given rank ; similarly for Σy^2 ; x related to, say, gdp, and y related to price ; r_s is Spearman Rank Correlation Coefficient ; $\Sigma d^2=\Sigma(R_x-R_y)^2$, where R_x and R_y are rank of these variables, gdp and price, the difference between ranks being taken pairwise ; N— number of observed pairs.

(b) Kendall Rank Correlation Coefficient

$$r_k=\frac{S}{\sqrt{\frac{1}{2}N(N-1)-T_x}\ \sqrt{\frac{1}{2}N(N-1)-T_y}}$$

Where r_k=Kendall Rank Correlation coefficient ; $T_x=\frac{1}{2}\Sigma t(t-1)$, $T_x=\frac{1}{2}\Sigma t(t-1)$; t=number of tied observations for particular ranks (and or found separately for x and y) ; S is calculated as shown in the following example : arrange one of the variables in natural order, say x :

R_x=1 2 3 4
R_y=4 1 3 2

Note : R_x and R_y are ranks of x and y respectively.

Consider y :

rank 4 : to its right are ranks 1, 3 and 2, all of which are less than 4 ; so, rank 4 contributes—3 to S(−1−1−1=−3).

rank 1 : to its right are 3 and 2, all of which are greater than 1 ; so, this rank contributes to S(+1+1), that is. +2.

rank 3 : to its right is rank 2 which is smaller than 3 ; so, its contribution to S is—1 ;

Therefore, $S=-3+2-1=-2$

It x is considered in the similar way, S must be the same, that is, -2.

These two formulas, r_s and r_k, are to be used when there are tied observations ; without ties, the formulas are

$$r_s=1-\frac{6\Sigma d^2}{N^3-N}$$

and

$$r_k=\frac{S}{\frac{1}{2}N(N-1)}$$

For relative uses and appropriateness of these two rank correlation coefficients, see the next section, Results.

B. Significance Test :

(a) For r_s, Spearman Rank Correlation Coefficient,

use $t=r_s\sqrt{\frac{N-2}{1-r_s}}$, where t is student's t distribution with degrees of freedom (d. f.)$=N-2$

Note : The readers should not confuse t in r_s formula with t in the above significance test statistic formula.

(b) For r_k, Kendall Rank Correlation Coefficient,

use $Z=\frac{r_k-m_r}{\sigma_r}$, which has, for sample size $N\geqslant 10$, normal distribution N (0, 1) with $m_r=0$, and

$$\sigma_r=\sqrt{\frac{2(2N+5)}{9N(N-1)}}$$

III. Results and Conclusions

The results of the statistical analysis are shown in the following table.

The table summarises the results of the present statistical investigation. The rank correlation coefficient between the growth rates of per capita gdp and consumption price index is negative for all groups, except r_k for $N=27$; that is inflation and economic growth are inversely related ; with higher rates of growth of consumer price index are associated lower rates of growth of per capita gross domestic product (measured at constant prices). However, statistical inference indicates, as from figures for t and z, that none of the coefficients is significantly different from zero. This means that the relation between these two variables is not statistically established. One cannot say, on the present statistical evidence, that inflation and economic growth in less developed countries are associated. (See also Ghosh, 2(6). where the relation between these variables has been examined within the framework of a simultaneous equation model).

Table

Correlation between Growth rates of per capita GDP at constant prices and of consumer price index

Correlation coefficient	.........For African Countries.		For all countrie
	N=14	N=10	N=27
Spearman Rank Correlation Coefficient r_s	−0.183 (t=0.643)	0.006 (t=0.017)	−0.010 (t=0.050)
Kendall Rank Correlation Coefficient r_k	−0.143 (Z=0.71)	0.000 (Z=not required)	0.010 (Z=0.07)

Rejection region : 5% probability level.

N indicates sample size ; t and z are respective test statistics.

For African countries, $N=10$ is obtained by eliminating these countries which show relatively less correlation between x and y

The relative uses and appropriateness of the two rank correlation coefficients, r_s and r_k, are briefly discussed below. In the above cases, the same data are used to calculate r_s and r_k. But these two coefficients do not have identical numerical values. This is because r_s and r_k have different underlying scales and are not directly comparable to each other on the basis of there respective numerical values. However, 'both coefficients utilize the same amount of information in the data, and thus both have the same power to detect the existence of association in the population.' (Siegel, 3, page 219) As compared to Pearson's product-moment measure of correlation, which uses numerical values rather than ranks of the variables, both Spearman and Kendall rank coefficients are 91% efficient. However, for the present study Pearson's formula is not suitable and safe, because of qualitative deficiency in the data of the absolute values of the variables considered.

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(b) 'The Relationship between Money Supply and National Income in Ghana : An econometric investigation towards understanding of growth process.' Departmental Research Project on Macro-economy of Ghana, ISSER, University of Ghana. Legon, June, 1974.
3. Siegel Sidney : Non-parametric Statistics for the Behavioral Sciences, McGraw-Hill Book Co. Inc. N. Y, 1956.
4. Tun Wai, U : The Relation between Inflation and Economic Development, IMF Staff Papers, Oct. 1959.

(B) Source of Data

United Nations Statistical Year Book.

(Continued from page 26)

In the post-emergency era, a number of policy measures (such as abolition of bonded labour, providing house sites for schedule castes and tribes, fixation of minimum agricultural wages, making poor free from indebtedness, conferring right of ownership on tenants, etc.) have been taken up with a good spirit to implement them for the betterment of the weaker sections of population in rural India. But the past experience of land reforms and other institutional legislations showed that the implementation of such measures in practice was difficult either due to the delays existing in those legislations or due to the in-built obstacles to the implementation process of those measures in the rural economy of India. Hence the most essential task of policy-making is to change or to rearrange the institutional set-up of agrarian production relations with a view to making it conducive to economic programmes concerning the betterment of the weaker sections of population in rural India.

Some Technological Problems of Afro-Asian and Latin American Countries

Debesh Bhattacharya*

The main purpose of this essay is to show that the Afro-Asian and Latin American countries should not depend on the transfer of capital-intensive technology from the rich countries for their problems regarding food, un-and under employment, self-reliance, and equality in the distribution of income, wealth and consumption. It is not possible for them to start or expand industrialization programmes by simply borrowing the highly sophisticated capital-intensive technology from the developed countries. Because of the sense of urgency for economic development which is strengthening in every Afro-Asian and Latin American country, there is a pecular danger of adopting captal-intensive technology which is working successfully in the developed countries. The first section of this paper will show the reasons for such adoption. It will also discuss the case against capital-intensive technology, which is not useful for any Afro-Asian and Latin American countries at their earlier stages of development. The second section will show that the present dependence of the Afro-Asian and Latin American countries upon the industrialized countries has resulted in an adverse terms of trade (continuously moving against these countries) and has distributed the net trade position causing a redistribution of world income from the developing to developed countries. This borrowing technology has not benefited the poor countries and their technological dependence has led to under development and to lack of self-reliance.

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Section 3 shows how the problems of under development are related to different technologies. A Russian technology of a highly capital-intensive nature, a western capitalist technology designed to eliminate the need for labour, and a Chinese intermediate technology will be analysed from the point of view of their respective effects on economic development

The final section will demonstrate that technology is never neutral and that it is never above the class struggle. Consequently no amount of technology is going to promote "economic development" unless there be first or simulataneously a widespread political and social revolution.

Economic development refers to the pattern of economic, social and policy changes that take place in any poor country as it progresses from a traditional to a modern status. It is brought about not only by economic resources but also by the people who are the active agents of change and bring about all the necessary conditions for economic growth, fuller opportunites for employment, reduction in inequality of distribution of income, consumption and wealth, and self-reliance.

Schumpeter defined technological progress in the following way : "Technological improvement may impinge upon the productive process from outside, that is to say, through some innovation that revolutionizes the technological horizon of producers (changes their production functions). The 'classic writers thought exclusively or almost exclusively of this case and hardly ever realised—an exception was Barton —that there is another case the effects of which differ substantially from the first ; machines may also be introduced that are no novelties to producers and, so far as technological knowledge is concerned, could have been introduced but were not introduced because it would not have been profitable to do so. Owing to a change in the relative prices of factors (e.g. an increase in wage rates), their introduction may, however, become profitable. Here we have no change of technological horizons but a change in the combination of factors within unchanging production functions. A third case was recognized by Adam Smith, namely, the case where the introduction of a machine that had been known before becomes profitable as soon as output expands beyond a certain figure". (*History of Economic Analysis*, p. 679).

Unfortunately the above analysis of technological progress is inadequate because it assumes that technology is neutral. However, it is never neutral and also it is never above the class struggle. In a class society, the capitalists, through the institution of capitalism they seek to perpetuate, determine not only the rates at whoh material capital and labour are to be exploited but also the mode of this exploitation, i.e. technology. The Marxian theory of "class struggle" is quite relevant to the problems of technology for poor countries, even though many of them have hardly gone through the capitalistic stage at all. A large body of unemployed keeps wages down to a bare subsistence rate. If workers begin to organise for higher wages, capitalists counter by replacing labour with machinery. Ostensibly this is done in the name of technological progress, but it has the effect of creating more unemployment, increasing exploitation of the workers and producing mass misery. Technology then becomes a tool used by the capitalist class to maintain their privileged position and hence to hold down the rest. Moreover, technology carries the mode of production as well as the code of the socio-economic system in which it was produced and survived and tries to replicate that mode of production and socio-economic system. Thus borrowing technology from the capitalist countries by the poor countries leads to the establishment of the capitalistic stage of development there.

Now we are in a position to analyse whether there is any case for capital-intensive technology in the initial stages of development of Afro-Asian and Latin American countries. It has been argued that the choice of capital-intensive technology will increase the proportion of income going to profits and decrease the proportion going to wages, with the result that saving and re-investment will be larger in such technology. As Kaldor puts it,

"If we can employ only a limited number of people in wage labour, then let us employ them in the most productive way, so that they make the biggest possible countribution to the national output, because that will also give the quickest rate of economic growth. You should not go deliberately out of your way to reduce productivity in order to reduce the amount of capital per worker. This seems to me nonsense because you may find that by increasing capital per worker ten-fold you increase output per worker twenty-fold. There is no question from every point of view of the superiority of the latest and most capitalistic technologies." (in R. Robinson (ed) *Industrialisation in Developing Countries*, pp. 28-29).

The above lines of reasoning should be criticised in a number of ways. First, in another study* based on empirical evidence from the

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* Sree Debesh Bhattacharya—The Role of Technological Progress in Indian Economic Development, World Press, Calcutta, 1972, pp. 64-67.

Economic Survey of Asia and the Far East, 1965, we found that the increase in the output per worker is less than proportional to the increase in capital-intensity in many countries. In both India and Japan, the data indicate that the amount of profit per unit of capital was no smaller with the less capital-intensive methods, implying that the rate of re-investment in the less capital-intensive technologies may not be lower. In addition, the statistics clearly show that the operating profit, net profit, the savings rate and the re-investment rate per unit of capital in the manufacturing industries in India and Japan are not lower for the less capital intensive than the more capital-intensive technologies. Now, if the less capital-intensive technologies generate larger employment and income and no less re-investment, the pure economic arguments for capital-intensive technology do not hold.

Second, another argument for the capital-intensive technology has been that it economizes the use of managerial personnel which is scarce in poor countries. The same source (ECAFE 1965) contradicts it and clearly shows that capital-intensive process does not necessarily economize the use of managerial personnel and secondly, the output/management ratio is not significantly correlated with the capital-intensity.

Third, it has been argued that because of the longer life span of capital equipment for capital-intensive technology, there is a capital and foreign exchange saving in the long run. My previous study (p. 66, Table 2.9) based on the experience of Japan and India, shows that the cost of annual fixed capital replacement per unit of output was larger in the capital-intensive technologies than the labour-intensive ones. For poor countries, highly capital-intensive technology must be imported, at least, initially in the process of development, while the labour-intensive technology has the advantage of saving the scarce foreign exchange since it could be evolved domestically.

Fourth, in the Afro-Asian and Latin American countries, there is a temptation to introduce capital-intensive technology beyond the point warranted by existing conditions and economic considerations. These countries, in their desire to advance quickly, are very anxious to import modern techniques from the developed countries. Since the developed countries are relatively well supplied with capital and are suffering from labour shortage, their production technology tend to be capital-intensive. There is a danger that the poor countries, even though they have limited supplies of capital and a surplus of labour in most cases will identify progress with capital-intensive technology. The ruling elites (governments, entrepreneurs, businessmen, and engineers) of these countries are influenced by the developed countries and are inclined to think in similar terms. In the circumstances, the most powerful factor holding up labour-intensive technologies lies in the socio-political structure of the economy. Furthermore when there is an unholy alliance between the domestic ruling elites and the multi-national and other foreign business interests, there does not exist any motivation to evolve appropriate technologies.

Fifth MNCs more often than not deem it preferable to extend existing production technology of the developed countries into the poor countries than to incur the costs of evolving completely new, untried and perhaps "risky" technology which might be more appropriate to the local conditions of poor countries. Similarly, much of the technologies in the Afro-Asian and Latin American countries are initially based largely on equipment and "know-how" imported from the developed countries, and local producers or comprador capitalists hesitate to take up untried technology developed locally, prefering to sell ready-made and well established technology coming from abroad. On the supply side, there may not be enough scientists, engineers and technologists who can innovate during the early stages of industrialization.

Sixth, in some of the Afro-Asian and Latin American countries, unnecessarily high capital-intensive technology may be the result of market distortions by the host governments when they exempt imported capital goods from duty, by granting favourable tax treatment on fixed investments carried out by MNCs and other foreign business interests.

The maintenance of highly over-valued exchange rates, and a monetary policy of keeping rates of interests substantially at the level of that in the unorganised sector of the money market, produce the effect of making the price of capital significantly lower than its real market value. These policies encourage the capitalists of these countries to use technologies that are more capital-intensive than they would if exchange values and interests rates were at their real market levels. This bias is further aggravated by setting statutory minimum wages above the free market rate. Moreover there may be the tendency of the capitalists to think that the capital is more controllable and more predictable than the behaviour of employees, their unions and the Industrial Tribunals.

Seventh, the case for capital intensive technology in poor countries is not tenable because it is simply wrong in assuming that the most sophisticated technology transplanted into an unsophisticated environment, will be fully utilized. Idle capacity is a noticeable feature of industrialisation with capital-intensive technology in the poor countries. There are several reasons why capital-intensive technology may be responsible for the under-utilisation of capacity in the Afro-Asian-Latin American countries. Effective utilisation of such technology depends very much on the skill of the labour force, the maintenance of equipment and management efficiency. In these countries, none of these factors is at par with those in the developed countries for whom the capital-intensive technology were designed. Moreover, since most of the poor countries suffer from a shortage of foreign exchange, there are frequent work stoppages because of a shortage of imported spare parts ; where a large stock of spare parts is maintained, the consequent freezing of working capital represents a tremendous strain on reserves which could be better used elsewhere.

Thus the case for capital-intensive technology in the Afro-Asian and Latin American countries is not a strong one purely from the point of view of economic considerations. Other socio-political factors play the decisive role. The impact of a technology is limited to the surplus which it generates, whosoever has access to the surplus is the biggest beneficiary. The capital intensive technology is advocated primarily because it concentrates the surplus on a very few hands in a capitalist system.

SECTION 2

In this section an attempt will be made to show that the present technological dependence of the Afro-Asian and Latin American countries upon the developed countries has led to the problems of poverty, unemployment and extreme inequality of distribution of wealth. The capital intensive technology has become the prerogative of those countries which are richest. With the concentratiou of wealth in fewer and fewer lands, a "comprador class" in the Afro-Asian and Latin American capitalist economies emerges and becomes almost totally aligned to the supremacy of 'capital-intensive' technology which has a demoralizing effect on local entrepreneurship and innovation.

A recent survey (quoted in *Appropriate Technology*, summer 74, p. 19) of eleven cigarette factories in Indonesia showed that three factories used capital-intensive technology, five used intermediate technology and three used labour-intensive technology. In terms of employment, the labour intensive factories needed forty workers each to produce a million cigarettes a month, the intermediate factories needed six employees each and the capital-intensive factories only three workers to achieve the same production. To make matters worse, it was found that one of the two foreign investors who were using intermediate technology in their factories had decided to switch to capital-intensive technology for a variety of reasons which are already stated in Section I. Such behaviour not only defeats the hopes of the Afro-Asian and Latin American countries that capital-intensive technology will create large number of jobs, but it actually aggravates the acute unemployment problem.

The developmental efforts left largely to foreign investors, domestic capitalists and other elite groups have not helped to overcome the present technological dependence as a result of which most Afro-Asian and Latin American countries have found themselves in the position of material appendages to the developed countries, which sell their commodities and technology at inflated values, while buying the products of the poor countries below their real values. This unequal exchange has perpetuated the unjust and exploited position of poor countries in the sphere of international trade.

The trade policies of the developed countries, and their domestic policies to protect their own agriculture and light manufacturing have a detrimental effect on the development and spread of labour-intensive technologies in the Afro-Asian and Latin American countries. By heavily subsidizing domestic agriculture and by protecting light manufacturing through high tariff walls, the developed countries almost close their domestic markets to the products of labour intensive agriculture and manufactured goods of the Third World. Consequently the terms of trade have been continually moving against the Third World, disturbing their net trade position and causing a significant transfer of income from the poor to the developed countries. Table 1 shows the transfer of income from the Third World to developed countries during the years 1963-73.

It is evident from the above table that the vicissitudes to which the Third World countries have been exposed in the sphere of international trade are real and offend the usual norms of equity and justice. It is quite true that through trade the developed countries have become richer at the expense of the poor countries.

Trade between the developed and poor countries does not lead to any advantage for the latter. The Afro-Asian and Latin American countries should attempt to become self-reliant as soon as possible. If they decide to go for international trade market, they should search the potential for such trade among themselves. Otherwise the present unequal exchange between the developed and Third World countries will continue to lead to unemployment, income and wealth inequalities, and abysmal poverty for the latter.

Table 1

Estimated Transfer of Income (million U.S. $)

Year	From developing market economies to developed market economies	From developed market economies to developing market economies	Net transfer from developing to developed economies
1963	230.4	227.7	+2.7
1964	505.4	747 9	−242.5
1965	809.3	522.2	+287.5
1966	1477.0	1123.2	+353.8
1967	1514.0	881.4	+632.6
1968	1347.6	974.4	+373.2
1969	2994.4	2174.4	+820.0
1970	5948.6	3615.3	+2333.3
1971	9101.0	7147.2	+1953.8
1972	15762.0	16844.4	+4917.6
1973	41428.8	33426.8	+8002.0

Source: D. H. Pai Panandiker, "In-Built Bias Against Poor Nations' Growth", The Economic Times, New Delhi, August 26, 1975.

The poor countries thus should not depend on the transfer of technology from the developed countries. In addition to being unacceptable because it would continue to divide the world permanently into the technological "haves" and "have-nots", it is incompatible with long-run economic development objectives of the Third World. Borrowing technology has not ended dependence on the developed countries and it is evident from Table 1 that it is harmful for the poor countries to continue economic transactions with the developed countries to continue borrowing capital-intensive technology.

There are several reasons why the poor countries should not rely entirely on transfers of technology. "It is difficult for a country that does not itself posses a certain number of trained scientific and technical personnel to know what usable technology exists elsewhere, to understand it, to adapt it to the country's special needs or peculiar conditions, to repair and maintain the necessary equipment, or indeed to operate it." *World Plan of Action for the Application of Science and Technology to Development*, U. N., 1971, p. 46).

It is true that lack of skilled manpower is an obstacle to the wider application of technology that is already known and to some extent used in a country. Consequently the primary task is to build up its own scientific and technical capacity. One has to remember that the capital-intensive technology is adapted to very different basic conditions, such as a relative shortage of labour, abundant supplies of capital and a large market. The Third World countries are facing almost diametrically different technology more appropriate to their local conditions. But the choice of an appropriate technology is not easily understood by a country that lacks indigenous sources of technology (i.e. adequate to local needs and utilized by local manpower still inadequately qualified).

SECTION 3

An attempt to show how the problems of underdevelopment are related to different technologies will be made in this section. The impact of a technology is limited to the surplus which it generates. Whosoever has access to this surplus is the biggest beneficiary. The capital intensive technology concentrates the surplus into a few hands in a capitalist system and to the State in a socialist system. Consequently the impact of technology is not neutral.

In the course of the First U.N. Development Decade, it has become clear that the transfer of capital-intensive technologies from the developed countries has been accompanied by a redistribution of world income in favour of the rich countries. It has also been linked with a pattern of economic growth without distribution having a fairly rapid growth of output in the industrial sector, or even in overall G.N.P. However, it has gone together with increasing unemployment, growing internal inequalities and stagnation in the agricultural sector. As Adlar says, "there is evidence which suggests that in the great majority of developing countries the benefits of economic development accrue chiefly to the upper income groups—the highest 20 per cent or 40 per cent of the population—and that in some countries the poorest 20 per cent or even a large percentage does not participate in the process of economic advancement at all. This state of affairs is in sharp contrast with the fundamental objectives of economic development —the diminution of poverty and human misery," (J. H. Adlar's "Development and Income Distribution", *Finance and Development*. September, 1973.

Also the transfer of capital-intensive technology has continued to make the Afro-Asian and Latin American countries the copyists and followers and has perpetuated their dependence on the developed countries. The owners of such technology have achieved their desirable goals : extra income for them and their comprador followers, perpetual bondage for the majority of people of the Third World, and superficial manifestations of economic development as represented by increases in G. N. P.

The pattern of development which measures success in terms of output or income alone, without consideration for other indicators such as employment opportunities, social justice and self-reliance, is no longer accepted by the Third World. The choice of appropriate technology and particularly of introducing labour-intensive technology will have a great deal to add to the achievement of a genuine pattern of economic development. There is a need for a dynamic approach which pays heed to the needs of the broad masses of the population. The objective should be the achievemet of full employment ; every worker should produce something and a few capitalists now produce a greater deal. This should be so even if in some exceptional cases the total output under the former arrangement should be smaller than it would be under the latter arrangement. There should be a firm conviction that economic development is not worth much unless everyone rises together and "no one is to be left behind, either economically or culturally.' Since the capital-intensive technology path to development has inflicted hardships on that part of the population which is least consulted as to its desirability and which is excluded from its benefits, the case for the mass line technology must be studied carefully.

The mass line technology has been introduced in China, where rural industrial development is based to a considerable extent on local resources of manpower and capital. It signifies the conception of new techniques no longer falls within the competence of a minority of engineers, technicians and specialist technologists alone, but can be understood by the masses of workers, whose capabilities can therefore be fully utilized. Thus the masses initiated and foster technological progress. It should be stressed that the chief feature of the mass line technology is not its smallness of scale but its local character ; it is based on technologies making optimal use of locally available natural resources, manpower, and equipment.

Jon Sigurdson* has made an interesting study of the Chinese technologies for rural industrialization. He observes,

"Innovations in productive equipment used in rural enterprises which produce or repair machinery are left, to a considerable degree, to the communities to enable them to make best possible use of their combination of capital, manpower and raw materials. The manufacture and use of indigenous machines are encouraged wherever the capacity of modern, specialized and expensive machines would not be fully utilized. Machinery and equipment used in agriculture are still a principal area of rural innovations ; it has often been stressed that mass campaigns to improve farm tools and developing semi-mechanical farm machinery could greatly improve the efficiency of labour."

The continuous development of appropriate technology for rural industries takes place as the rural industrial system becomes more and more differentiated. There is an important progressive element here in that as the market develops and the slack of under employment is reduced, the appropriate technologies will adapt to both larger scale and higher capital intensity. As the volume and sophistication of local industry develop, so does local capacity for finding its own solutions. Thus, when development becomes partially self-sustaining and the locality becomes increasingly able to analyse its requirement for further economic and social development, a symbiotic relation between urban-based industry and rural industry becomes essential.

To function effectively, small rural industries not only have to be able to convert techniques to meet the standards of the modern industrial sector, they must also be able to co-ordinate their activities effectively and schedule over-all production within the large industrial complex. These conversions and management skills are developed in rural areas as the local industrial systems become more and more differentiated. Industrial organization which permits the efficient use of small scale industries in co-operation with modern industrial complexes seems already to have been developed in many sections of China." (p. 350).

It is evident from the above study that the Chinese technology (based on the principle of 'Walking on Two Legs') has oriented to the most immediate and enormous problems of underdevelopment and hence must be seen as a major example for other Afro-Asian and Latin American countries. The Chinese approach suggests that the mass line technology,

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*See his article "The Suitability of Technology in Contemporary China." Impact of Science on Society, UNESCO, Vol. XXIII, No. 4, 1973.

where means of production and ownerhip of technology are in the hands of the masses and not owned by a small group of capitalists, either local or foreign, creates conditions so that the masses of the population are better off in the vital matters of food, shelter, employment and health.*

The Chinese approach also shows that the Third World countries do not have to accept the transfer of semi-obsolate labour-intensive technologies which the developed countries themselves do not use in the present time. There has been no continuance of a technological caste system whereby the more sophisticated technologies are imported from the U.S.S.R. or from the West, whereas China has to rest content with so-called intermediate mass line technologists. China has not avoided capital-intensive technologies altogether.

In any economy, given the present state of technological knowledge, capital-intensive technologies should be used when they are the only effective means of exploiting a country's physical resources. These technologies are to take the place of human skills which are not at present available. If any poor country decides to produce steel, power, transport, communication projects, they could be justified for using the most up-to-date technology available. However, it should combine this with the use of labour-intensive technologies in a number of ancillary processes. For example, a highly capital-intensive technology may employed in steel-making, but all other processes, like the movement of raw materials and finished products, could be carried out with labour-intensive technologies. However, it is worth remembering that technologies in which a particular process can be carried out mechanically without prejudice to the overall employment situation could be recommended even for any poor country.

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* Empirical evidence regarding Chinese achievements in these fields are provided in my following studies.

1. "China's Economic Growth Since 1950", Economic Affairs, Vol. 19, Annual Number, 1974.

2. "India-China : Comparisons and Contracts : 1950-1972", The Journal of Contemporary Asia, December 1974.

3. "A Comparative Study of Economic Development in India and China and its relevance to other Afro-Asia Countries", a paper for the Conference on an appraisal of the relationship between .agricultural development and industrialisation in Africa and Asia, Tananarive, 4-14 July, 1975, conducted by U. N. Economic Commission for Africa (IDEP), DAKAR.

SECTION 4

The case for the mass-line technology will be restated in this section. It will also contain a discussion on how it could be the solution to the problems of underdevelopment. However, the central purpose of this section is to show that the mass-line technology is not a sufficient condition for economic development. It is not a substitute for much needed political; social and institutional reform. If technology becomes a tool used by the ruling class to maintain the status quo, no amount of technological progress is going to promote "economic development" unless there can be first or simultaneously a widespread political, social and institutional reform.

It has been argued that the mass-line technology could be the solution to the problems of the Third World, because it provides their masses with the means of doing productive jobs. It may also help every country to achieve full employment, independence from the developed countries, and egalitarian distribution of income and wealth. Also, as the technology is simple it could easily be absorbed by the masses for immediate application in the rural areas as opposed to the sophisticated capital intensive technology. Moreover, it could arrest the drift of population from the rural areas to the cities and help set up a viable economy buoyant with self-sustained growth. Since the products methods are relatively simple, the demands for high skills are minimised, not only in the production process itself, but also in matters of organisation, raw material, marketing and financing.

The imposition of capital-intensive technology on the Third World widens the gap in the distribution of income between labour and capital. It is not appropriate for rural development. The rural areas in the Third World will continue to be by-passed and unemployment will continue to grow unless the mass-line technologies are developed in the poor countries.

While the general subject of capital-saving, employment-creating appropriate technology is to meet resource endowments of the Third World, there remains a widespread scepticism as to whether it really exists in an economically efficient form. However, in recent years the the ILO's Technology and Employment Programme has provided clear evidence of the existence of appropriate technologies in the following fields.*

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* The ILO's detailed investigations could be obtained from A.S. Bhalla (ed.) Technology and Employment in Industry : A Case Study Approach, ILO, Geneva.

Agriculture :—Agricultural productivity can be increased by the indigenous design and production of agricultural implements. Studies in India have shown that a small sized 14 H.P. tractor was sufficient to meet the requirements of even large holdings in case of general crop farms, while 90 per cent of the available tractors being of 25 H.P. and above remained under-utilised on many farms resulting in higher unit cost of production. The farmers had to purchase the large-sized tractors because of the non-availability of small-sized machinery. (c.f. *The Economic Times*, August 29, 1975, p. 8).

Consequently agricultural production could be increased if there is the introduction of small-sized machines indigenously.

In Tanzania a large number of appropriate technical innovations and improvements of agricultural implements have been demonstrated by an ILO/UNDP technical assistance project at the Tanzanian Agricultural Machinery Testing Unit at Arusha.

Manufacturing Industry

The ILO studies so far completed found that the elasticity of substitution between fixed investment and labour is high because of the considerable range of choice of machinery and equipment in industries as diverse as textiles, shoe manufacturing and sugar processing. One such indicates that small-scale sugar plants in the rural areas of India can often be competitive with large, modern sugar mills despite their relative technological simplicity. Certainly more people are employed and thus income is more widely distributed among the poor in the small-scale plants even though the quality of sugar production may be slightly poorer in some cases.

Construction

Field experiments in the Philippines and Nepal lead to an important conclusion, namely, that it is possible to devise technically efficient labour-intensive technologies for many important construction projects. A project in Thailand shows that low capacity utilisation rates make capital-intensive technologies less attractive than the labour-intensive ones. The Nepalese experiment demonstrates that labour-intensive technologies need not be slower if construction work

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For a brief summary, see Bhalla and C. G. Baron's note in Appropriate Technology Vol. 1, No. 4, Winter 1974-75, Intermediate Technology Publication Limited.

is undertaken simultaneously on several sites rather than in a sequential fashion.

The ILO studies show that appropriate technologies can be built and repaired locally and they create jobs instead of taking them away. The justification for any technology should be judged on the following criteria :

1. Does it utilise the resources already available to the fullest extent ?
2. Does it promote economic development by bringing benefits to the mass of the population and not merely to a privileged few ?

One may well ask why the magic of the mass-line appropriate technology has not been introduced and hence has failed to bring about economic development in the Third World. The main reasons for introducing capital-intensive and not the mass-line technologies are already stated in the first section. Since technology is never neutral, the control and distribution of any technology and other production inputs are vital for any proper understanding of its role in economic development. If the ruling elites have the control over the means of production, they will set the technology which will guard and abet their existing property rights and privileges. In the circumstances, no technologies can become the architects of a policy calculated to destroy the privileges standing in the way of economic development and to place the property and incomes derived from it at the services of masses of the Third World. Hence technology will benefit only the privileged classes of people who own the means of production. The fundamental problems of poverty, unemployment and extreme inequality of income and wealth in the Third World cannot be solved by technology in a capitalist system. Since capital is made cheaper and labour dearer than their true social costs by all kinds of distortions, a private enterprise of a capitalist system, governed by market price considerations, would tend to make the socially wrong choice with regard to the appropriate technology. The choice between alternative technologies will have to be based on "accounting" prices reflecting the true scarcities of the factors of production. It is highly unlikely that the entrepreneurs will choose the risky path of inventing their indigenous technology if modern machinery can be purchased reasonably cheaply. The State will have to intervene and tough decisions against capitalist and entrepreneurs have to be executed largely through fiscal machinery to private-cost accounting with social cost-accounting.

Conclusion

1. Direct importation of capital-intensive technology, whether it be rudimentary or advanced, is not likely to be beneficial in terms of economic development. This is true whether it is imported from the West or from the U.S.S.R.*

2. Capital-intensive technologies do have their beneficiaries. They benefit the developed countries, the comprador capitalists and other privileged classes of people.

3. Capital-intensive technologies aggravates the problems of under development by limiting employment opportunities in the Third World. They create income inequalities, class distinctions, poverty and misery for the masses of population.

4. The "dualism" in the Afro-Asian and Latin American countries is encouraged by the transfer of technologies from the developed countries, which do not posses the necessary appropriate technologies to be able to assist effectively rural development.

5. There are strong economic reasons for the introduction of mass-line technologies in Third World because it is labour-intensive, cheap, simple to absorb and is not dependent on the availability of foreign exchange and skills.

6. Since the unequal exchange has perpetuated the unjust and exploited the position of poor countries in the sphere of international trade, there should be technologies which lead to self-reliant economic development. China's campaign for autarky has been successful and there is no reason why other Third World countries should not become self-reliant as soon as possible, However the formation of customs unions among the Afro-Asian and Latin American countries, who are at a similar stage of development and with complementary resources, may be beneficial for the Third World. These would encourage a fairer

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* Soviet "aid" to India is an interesting example. It is mainly in the heavy industrial and basic industries, such as steel mills, oil refineries and hydro-or thermo-power stations. According to figures released by the Indian Ministry of Finance, in fiscal year 1973-74, the Soviet aid totalled 139 million rupees, whereas what India paid back to it in the same came to 567 million rupees in both principal and interest. India's Economic Times made the following estimates on June 24, 1974. By the time India has cleared its debts, the U.S.S.R. will receive a sum that is 565.7 per cent of the principal loaned to it. According to Peking Review, October 10, 1975, "This kind or exploitation is even harsher than that carried out by the other imperialists." Also see Debesh Bhattacharya's "Foreign Aid and Under Development", Current Affairs Bulletin, October, 1973.

(Continued on page 59)

The Energy Crisis—Some Implications

Priyatosh Maitra*

It is generally known that oil resources are concentrated in a few regions. Sixty-seven percent of known oil reserves, the exploitation of which is considered profitable, are situated in the Middle East and North Africa. Besides these two areas there is oil in Canada, the U.S., the Soviet Union, and Venezuela, Ecuador, Peru, Indonesia and Nigeria. It is also no secret that prospecting for oil reserves and their exploration, refining crude oil for industrial and domestic purposes, and into gasolene, as well as its distribution to customers have been mainly effected by a few multinational oil companies. These are Exxon (formerly Standard Oil of New Jersey), Texaco, Mobil Oil, Gulf Oil, Standard Oil of California, all of which are American companies, and British Petroleum and Royal Dutch Shell. These companies produced three-quarters of the crude oil of non-communist states and controlled two-thirds of its distribution.

The vital role of oil in the world economies is better appreciated when attention is paid to the size of its consumption, its imports and exports, the huge investment attached to its production, transport and distribution, and its value. Total world consumption of oil in 1973 reached about 2,800 million tons, of which about 1,700 million tons (34 million barrels per day), or 61%, was traded internationally. The value of that amount in 1974 will be no less than $100 billion, thus raising its share in world trade from about 5% during the 1950's to about 20% in 1974, and consolidating its position as the most valuable single commodity in international trade. The fleet of tankers servicing its transport totals 3,650 vessels amounting to 246 million deadweight tons. The capital expenditure on its production, transportation, refining, marketing and related petrochemical industries in 1972 alone reached about $25 billons. Thus the interdependence of both exporters and importers which has promoted the exploitation of this natural resource is unprecedented and is particularly to be noted. The central role oil plays in energy consumption may also be ascertained from the following: In the European Economic Community 58% of energy needs in 1971 were met by oil. Local production being very limited, approximately 96% of the oil had to be imported. The situation of Japan and a number of developing countries, in particular India, is still worse. Having no oil production, little coal, limited hydrological sources and hardly any gas their energy supply largely depends on imported oil. The U.S. is in a better position as only 45.4% of its total energy needs has to be covered by oil, and only 21.6% of the oil needed has to be imported. However, the volume of oil imports in the U.S. is rather high, amounting in 1971 to 201 million tons, as compared to 620 million tons for Western Europe and 190 millon tons for Japan. The emerging relationships between the two groups of countries, i.e. oil exporting and oil importing countries, rest upon three basic factors: availability of crude, the price of oil, and the re-cycling of surplus funds. It has been evident that demand for oil has slackened as a result of the recent price rise adopted by the oil producing countries. The growth of demand in the non-communist world will slow down from the staggering rate of 7.5% p.a., as evidenced by elasticities over the last few years, to a moderate 2% to 3% per annum in the coming ten to twelve years. This current and prospective rate of slowing down may, however, be accounted for by the recession which is tightening its grip all over the non-communist world. It is therefore expected that the demand will not only be restored; its rate of growth will be higher when this part of the world recovers from recession, provided, of course, that the production function followed in these countries does not change in the meantime. However, at rates mentioned above, demand will rise from about 43 million barrels per day in 1973 to about 58 million in 1985, i.e., a total increment of about 15 million barrels per day. Of these, presumably, about 6 million barrels per day will be furnished by the indigenous sources in the oil consuming countries, from the North Sea and from Alaska, which leaves 9 million barrels per day in 1985, or an annual incremental amount averaging 750,000 barrels per day to be imported, on top of the 34 million barrels per day imported from all sources in 1973. The total volume which may be imported from OPEC sources in 1985 will amount to 40 million barrels per day, calculated on the basis of OPEC sources supplying 31 million barrels per day in 1973, and on the assumption that the entire additional amount of 9 million barrels per day would be supplied by OPEC countries.

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The low prices which prevailed over the last twentyfive years prior to 1974 had served the interests of the consumers. It was a buyers' market and the production countries were in the utmost need of oil revenues, which were then, and even now, are the main source of living for these countries. Demand was moving up, but not sufficient to meet supplies. Also producers were competing with each other for incremental sales.

Now the market has turned in the sellers' favour. Demand has reached high enough, with high growth rates and boom in developed countries until the 1970's, and a high rate of growth for modern sectors in all underdeveloped countries based entirely on foreign capital made available by the developed countries. World reserves are low, prices are high, and the need for revenues in the majority of producing countries is more than covered for the immediate and intermediate future at present levels of production OPEC oil was cheaper than conventional crudes produced elsewhere, and other substitutes like coal, by no less than 50%. Nonetheless, because supply exceeded demand prices were low. Attempts to raise prices by as little as 0.25 cts. per barrel were unsuccessful for eleven years, despite slow changes in the market forces which called for an increase towards the 1960's. This anomalous supply and demand situation was aggravated further by the continued rise in world inflation, and by the ever-widening gap between the prices of goods and services imparted by oil-producing countries and the prices of the oil they exported.

A price increase was introduced under the Teheran Agreement of February 1971, but it was considered to be too small to correct the growing demand-supply imbalances and the effects of continuing world inflation. This therefore prompted OPEC sources to double the Teheran prices and index them thereafter by an annual 10% inflation rate from October, 1973. But the OPEC countries felt this price entailed only a 70% increase, which still failed to provide a true reflection of the markets supply and demand interaction. Another increase, this time of 130%, was therefore introduced on 1 January 1974, and this caused a discernible decline in world oil consumption. In this way price-sensitiveness in the demand for oil was established. According to many oil experts this sensitiveness alone could help in conserving oil resources. These had already exhibited a pronounced decline during the late 1960's which in turn meant a fall in their life-expectancy from thirty-six years in 1969 to thirty in 1973 with a possible further fall to 25 years by 1980.

Oil Companies : Prices and Profits

Oil was sold all over the world by these companies for many years on the basis of a common price, "the calculation of which was simple as it was congenial. The oil companies took the production cost of Taxes oil and added the transport costs from the Gulf of Mexico to the place of destination. If these companies produced oil somewhere at lower production costs, and if the transport costs were lower than those calculated between the Gulf of Mexico and the place of destination, the companies made an additional profit. As Texas oil had production costs of $1.35, while in Saudi Arabia these costs were only 10 cents and transport costs from Saudi Arabia to Western Europe were much lower then those from the Gulf of Mexico, the companies made considerable profits." From the 1950's till the early 1970's the developed countries attained unprecedented economic growth requiring ever-increasing supplies of oil, and a handful of oil companies have made fabulous profits as a result. From the early fifties the so-called "posted prices" were used as the basis for the calculation of the market price by the multinational companies. These are fictive prices agreed upon between the oil companies and the individual oil-producing countries in order to determine the royalties to be paid by the oil companies to the governments of the oil producing countries. The royalties amount to 12.5% which is a part of the total receipts of governments known as the "government take."

The recent rise in oil prices has directly benefited the oil companies, most oil producing countries and also the governments of the oil importing countries. The economies of the oil importing and industrialised countries derive indirect benefit in the form of vastly increased demand for both consumer goods and consumer durables and the provision of capital goods for the oil producing countries which have no other industry of their own. In the Federal Republic of Germany, for instance, government revenues from the oil tax have increased nearly fourfold in ten years, from 3.7 milliard deutschmarks in 1969 to 14.2 milliard deutschmarks in 1972.

Posted Price Movement

A glance of the movements of posted prices for the oil will be helpful for discussion. Posted prices remained relatively stable until

1974. In February 1959 the big oil companies decided to decrease the posted price from $2.08 to $1.90, and in August 1960 lowered it again to $1.80. This decrease was caused by conditions in the oil market at the time. In a move to protect their interests the oil exploiting countries united in 1960 to form the Organisation of Petroleum Exporting Countries (OPEC) as a means of promoting and facilitating joint negotiations with the multi-national oil companies. The founding members were Iran, Iraq, Kuwait, Saudi Arabia, followed by Qatar in 1961, Indonesia and Libya in 1962, Abu Dhabi in 1967, Algeria in 1969, Nigeria in 1971 and Ecuador in 1973. However it is only since February 1971 that prices have been raised, starting with the increase from $2.18 to $2.74 in April 1973, to $3.06 in August 1973 and to $5.17 in November 1973. The big jump to $11.65 came in January 1974.

Despite this price rise exports of oil showed an increase of 400% between 1955 and 1973.* The revenue in the form of taxes received by the government of oil producing countries, increased remarkably as the following figures indicate : in 1955 the Middle East countries and Venezuela together received $1,531 millions, while in 1972 Venezuela alone received $1,948 and the Middle East $8,746 millions. Three North African countries received $3,472 millions. According to oil experts the revenues of oil exporting countries have been around $110 billions owing to the rise in prices as well as (1) a large increase in "buy back" oil prices which is being quietly enforced by producer governments under their old 25% participation deals with the oil companies ; (2) a sharp rise in the share of the oil being taken over by the governments on which these higher buy-back prices will be charged.

The table below indicates the rate of growth of oil consumption in Asian countries, including Japan. The annual average percentage increase in oil consumption in underdeveloped Asia is much higher than the rate of population increase in these countries because of their rapidly growing modern sectors representing sophisticated industrialisation. National income is increasing at a very high rate (vide UN. E.C.A.F.E. Economic Survey Report 1972), but unfortunately, despite

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* Oil Exports

	1955 (million barrels)	1972 (million barrels)
Middle East countries	1,153	6,217
Venezuela	738	1,132
Libya, Algeria & Nigeria	—	1,187

Source : Economic Affairs, Review pp. 4-5, The German Tribune Vol. 4, 1974.

this rapid growth of manufacturing output, unemployment is rising much more rapidly.

OIL CONSUMPTION IN ASIA 1968-1973

(1)

	Percentage Change (Annual Average 1968-1973)	Percentage Share of the World Total 1973
South Asia	+ 7.6	1.2
South East Asia	+ 8.9	2.6
Japan	+13.4	9.6
	Total	13.4
Australasia	+ 4.7	1.2

Source : The British Petroleum Company's Statistical Review of the World Oil Industry 1973.

The choice of technology and production function pursued in this sector, based on inputs from industrialised countries has made this dependence obvious. It is therefore said that the recent energy crisis has made the situation "desperate." How desperate it is in some of these countries has been highlighted by the Indian Finance Minister Mr. Chavan who said recently that "India can neither pay for the oil nor do without it." If it cannot obtain preferential prices from the oil exporting countries, a demand which has already been refused, it must cut imports of other goods thereby affecting its industrialisation programme. This however affects 15-20% of the modern sectors of these countries ; the remaining 80% depending on poor underdeveloped agriculture, having nothing to do with the costly sophisticated fuel. Because of the lack of interdependence between the two sectors—modern and traditional—for output as well as input, the effect of the energy crisis on the modern sector has very little repercussion on the main body of the economy.

However, the group of poor nations adversely affected by the recent oil crisis through their modern sectors based on inputs from developed high income and sophisticated energy based economies is a highly diverse one. Some will find per capita income declining significantly below the already abysmally low levels. Oil is a major import and it cannot simply be paid for by increasing exports (already at the limits of their supply capability). Nor can it be passed on to the rest of the world through higher prices of exports (constrained by international competition as well as by the declining elasticities and uncertain demand for those products). Neither will it help to reduce imports, already at minimal levels consistent with prudent development. Countries in the severely affected category in Asia include India, Bangladesh and the Philippines ; in Africa, Ethiopia and Sengegal and in Latin America Uruguay. Other underdeveloped countries are better able to live with the oil price changes. Their export structures are more able to generate increased earnings, and there is some slack in export needs. These countries include Malaysia, Singapore, South Korea, Taiwan in Asia, and Colombia and Mexico in Latin America. Still others, such as Brazil, Pakistan, Thailand, and Turkey fall somewhere in between. Such diversity in the impact means that any plan designed to help the developing countries must embody considerable flexibility.

Oil and Asia's Underdeveloped Countries

Recent estimates showed that the oil import bill of underdeveloped countries would rise by 160% from US$ 5.2 billions in 1973 to US$ 13.4 billions, assuming that the same physical volume of oil was imported in 1974. Such an increase in their payments for oil would represent almost half of the total international reserves of most non-oil-exporting developing countries or about 50% of their estimated 1974 total exports. These payments are in excess of the total official aid flows to the poor countries. Just as these oil bills comes in, the world's major lenders and investors are pulling back from extending credits to some of the neediest among the underdeveloped countries, mostly of Asia. Their debt service capability is already stretched to the limit and the risk on default of any new debt is extremely high. Indeed for some of the developing countries hit hardest by the oil crisis, default on additional external debt is almost a forgone conclusion.

The effect of the energy crisis, both adverse and beneficial, on Asian developing countries may be summarised as follows :—

Adverse Effects : (a) The energy price rise has enhanced costs of development plans in these countries, aggravating inflation which has already become acute there. Many of these countries discover that after the drastic oil price increase, quite a few of their development plans are just waste paper. The rate of investment has declined, the oil crisis being one of the major factors, (vide—UN. E.C.A.F.E. Report, 1972). Many of these developing countries have now to pay almost as much extra for their imports of oil and oil products as industrial western countries give them altogether in development aid.

Many developing countries depend on imports of industrial commodities produced on the basis of oil, synthetic fibres, plastic and fertilisers. The shortage of oil and the increase of oil prices have already led to bottlenecks in their supply, and to price rises which have hit hard these countries :

(b) Exports of developing countries, which are already facing contracting markets for their produce, are equally affected. If, in industrialised countries, economic growth is reduced as a result of expensive energy, and demand undergoes seructural changes, developing countries will have difficulty in selling most of their products in these countries. The decrease in private incomes in industrial countries and the increase in gasoline prices will also lead to a reduction of tourism, particularly in Asian and African countries. Another source of income for some developing countries was transfers from nationals working in industrialised countries. They will also diminish, once private incomes and employment in industrialised countries are reduced. This is not widely applicable to Asian countries. But it has *one* implication for underdeveloped Pacific countries, a substantial part of whose labour force is engaged in the industrial sectors of New Zealand and Australia.

The shortage of higher price of oil will affect adversely the size of foreign aid to underdeveloped countries of Asia from industrialised countries. These industrialised countries will be reluctant to provide aid with their ability being adversely affected. This has, however, a vicious circle effect. Underdeveloped countries failing to get adequate aid will be forced to reduce their demand for imports from industrialised countries which as a result will find their income affected and reduce further their ability to provide aid, and so on.

Beneficial Effects : (1) The present energy crisis may cause a shift of capital from industrialised to labour surplus Asian countries to take advantage of cheap human energy as a substitute for expensive oil energy, and in due course may force these industrialised countries to develop and adopt more labour-intensive technology which will surely benefit labour-surplus Asian countries.

(2) Liability on the part of labour-surplus Asian countries to get increasing amounts of capital from industrialised countries as stated above, may force Asian to develop their own technology based on their own resources.

(In parenthesis however it must be admitted that there is not only no sign of this trend, but rather that an opposite tendency is already noticeable. Take for example, the case of India's becoming a nuclear power. Nuclear power as a source of energy is a product o the need of a high income labour-short economy and as such has no relevance for India's poor and labour-surplus economy. This is, however, applicable to all efforts made by these countries to industrialise with sophisticated capital goods that need very little from local resources. This explains the perpetuation of underdevelopment in all these countries despite remarkable growth of modern industries).

The terms 'energy crisis' and 'surplus labour' appear to be self-contradictory. The present state of energy use has evolved out of the need, on the one hand, to substitute scarce and expensive labour, in the industrialised countries, and on the other, out of the need for rapid growth, an inevitable result of profit-based free enterprise economy. These underdeveloped countries have surplus labour and, therefore, there is no need for such substitution ; but as their attempted industrialisation is based on the imported capital and technology, their economies have been made pitifully dependent on oil as the source of fuel. The products of these types of industrialisation serve the need of high income labour-short economies, and are not of much use to these poor labour-surplus economies for obvious reasons. But that is a different story. If the labour-short countries want to perpetuate the existing situation some arrangements will have to be made at the international level. Steps have already been taken in this direction as follows :

The IMF has decided to set up special oil facilities which are expected to satisfy underdeveloped countries. It means the granting of loans by IMF at a low rate of interest to finance the purchase of oil by developing countries. This fund to enable needier nations to tide over their balance of payments difficulties is a big help, particularly, to those obliged to import crude oil, foodgrains and fertilisers. This scheme of IMF, contains elements proposed earlier by the British Chancellor of the Exchequer, which envisaged an outlay of $30 billion, but in size and scope, is not closely comparable to the latter. The IMF scheme bears a faint resemblance to what 106 developing countries, including the oil producing states, agreed on last January. But it does not promise a big slice of the petro-dollar accumulations to developing countries, and more than it sets a downward trend for oil prices. Nothing like a global agreement on the larger questions of trade prices, the recycling of petro-dollars and a plan to protect the world monetary system from further shocks has emerged.

Oil producing states, supposed to get a major role in the IMF's decision making process under the British Scheme, have settled for what has emerged. Clearly their global aspirations have less in common with those of the developing world than is often supposed. Piling up faster than can be absorbed by the world economy, petro-dollars have become a serious problem to the oil producers as well. This explained why they never really turned their backs on the Kissinger plan for a "safety net" almost exclusively for the benefit of world's rich 24. Kissinger's scheme for a $25 billions fund to be operated by O.E.C.D. has only been outlined, but is generally seen as giving the affluent 24 members of O.E.C.D. a decisive role in petro-dollars. The oil price rises have forced OECD members to peg their growth rate to a meagre one per cent for the second year running which surely would affect foreign aid programmes to poorer nations. One important beneficial effect of the present oil crisis for the New Zealand economy would be that with the rising income of the oil producing countries it is expected that the demand for New Zealand's primary exports as well as for its technology and expertise would go up, and thus New Zealand's earnings of petro-dollars would rise. Part of this could be channelled to these developing countries of Asia as a part of New Zealand's foreign aid programme. These poor economies of Asia have very little demand for New Zealand's primary exports which are suitable for high income economies and therefore, N. Z. aid has played little part until to-day in the development of these countries, except in humanitarian causes like medical aid, aid during flood, drought and famine. In this respect closer co-operation between New Zealand, Japan and Australia as earners of the petro-dollars, in planning and mobilising a part of their resources to help these under-developed countries at least to maintain their present industrialisation efforts is urgently needed.

Lastly, the oil crisis is forcing some countries of Asia to become coal-conscious, but their policy in this respect will not be beneficial to these countries in the long run. For example, India has made it a policy to increase its export of coal to earn foreign exchange for oil and other capital goods. It would have been better to try to develop a production process which could use her own limited but valuable energy resources in a manner suitable to her present stage of development. In this way she could develop her own technology, instead of making herself more dependent on outside high income energy resources at the cost of exhusting her own. Coal as an energy resources is particularly important to a labour surplus economy. This was the basic energy at the time of Industrial Revolution in England and in the subsequent industrialisation of Europe.

Conclusions

The oil crisis has lessons for both industrialised and industrialising, i.e. developing, countries.

For industrialising countries, the lesson is that they should develop their own technology so that the vast human energy that is lying idle and unproductive is put to use, instead of depending on imported technology from high income industrialised countries. The latter requires sophisticated and more capital intensive energy sources, the use of which has evolved with the growth of these high income economies as well as to meet the labour shortage situation. One basic fact must be emphasised here. The technology that these underdeveloped countries are using has not evolved to meet the need of the indigenous economy ; it has been imposed. Technology is determined by the economic system, factors and natural resource endowments of a particular economy. It is not universal.

For developed countries. on the other hand, the existing highly capital-intensive production and consumption pattern should be altered so that more labour-intensive technology could be introduced. But it needs, again, changes in the existing production, distribution and consumption pattern that has resulted in the present labour shortage situation and thereby, more mechanisation Use of nuclear power is an alternative solution to the problems created by the energy crisis. But with the existing production and consumption pattern kept intact, together with its side effect of declining population growth rate, use of nuclear power would mean more capital intensity of production and more pollution.

(Continued from page 56)

and just international trade system, while avoiding the present one-sided encounters between the developed and poor countries in the international trade and technology fields.

7. Technology is not a substitute for much needed political, social and institutional reform. The kind of economic system which generates confidence and spontaneity in the masses own ability to succeed may be the most important factor, the feeling of participation by the masses in the development process could be encouraged by their ownership and control of means of production. In China where it has been created the effect has been a genuine economic development.

8. Finally any technology that helps the masses has a place, but there should be no place for technologies that concentrate power in a few hands and turn the masses into mere machine-minders.

The Friedman Revolution

R. M. Patnaik*

The dominant feature of the post-war developments in monetary theory has been the revival of the quantity theory of money and the rise of the 'monetarist' approach to economic policy. This approach, initiated by Professor Milton Friedman of Chicago, puts emphasis on monetary policy in contrast to the Keynesian stress on fiscal policy. Fiedman, thus, has brought about a counter-revolution to the Keynesian revolution.

Keynesians on Quantity Theory

The Keynesian income-expenditure approach developed in the "General Theory" (1936) offered an alternative approach to the interpretation of changes in money income that emphasised the relation between money income and investment rather than the relation between money income and the stock of money. Keynesian economics spread the belief that "money does not matter" and policy should concentrate on investment, fiscal policy and the relation between consumption expenditure and income.

Keynes did not, of course, declare that quantity theory is invalid. He argued that under conditions of underemployment equilibrium, v in the Fisherian equation and k in the cash balance equation are highly unstable. Hence under such conditions, these equations are largely useless for policy or prediction. Moreover, Keynes regarded such conditions as prevailing much of the time. In other words, the constancy of the velocity of circulation of money, assumed by Fisher, arising out of its determination by institutional factors, was contradicted by the events of 1930. This led to the abandonment of the Fisherian theory and the general acceptance of the income-expenditure approach.

The Keynesian theory of money and price is founded on the demand for money as a store of value and on the special qualities of

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money as a form of wealth. It shifted the emphasis of monetary theory to the role of money as an asset with special properties in an uncertain world. The quantity of money, he argued, could be divided into two parts : one part, M_1, being held to satisfy the transactions and precautionary motives, the other part, M_2, being held to satisfy the speculative motive. He regarded that transactions demand as a constant fraction of income and the speculative demand as depending on the relation between current rates of interest expected to prevail in the future. If the rate of interest is expected to rise, and owner of cash may do better not to invest it in securities immediately, but to wait until he can buy those securities at a lower price. The lower the actual rate of interest relative to some normal level, the less the sacrifice of interest in not investing immediately, and the more likely a rise in the rate in the near future ; consequently the greater the relative attraction of holding cash the greater the demand for money to hold as speculative balance.

Although expectations are given great prominence in developing the liquidity function expressing the demand for M_2, they do not explicitly enter into that function. For the most part, Keynes and his followers in practice treated the amount of M_2 demanded simply as a function of the current interest rate, the emphasis on expectations serving only as a reason for their attribution of instability to the liquidity function.

A special case of liquidity preference function, mentioned by Keynes is that at some low rate of interest the demand for idle balances might become completely interest elastic, thus setting a floor to the rate of interest. This is called the 'liquidity trap'. Such a situation might prevail under conditions of underemployment equilibrium. If the interest rate falls sufficiently low, Keynes argued, money and bonds would become perfect substitutes for one another ; liquidity preference would become absolute. In other words, the liquidity preference function would become horizontal at some low but finite rate of interest. As a result k would become higher and v lower. Keynes regarded absolute liquidity preference as a strictly 'limiting case.'

Summarising Keynesian theory of demand for money, the aggregate demand for money is seen as functionally related to both the market rate of interest and the level of national income, varying inversely with the former and directly with the latter. Keynes thus improves upon the classical quantity theory by introducing the interest rates as a major determinant of the demand for money. The influence of the rate of interest is made explicit through Keyness' analysis of how speculators behave. This behaviour went unrecognised in the classical quantity theory because in that theory's world of certainty is through perfect knowledge, there is no reason for speculation. Keynes thus introduces uncertainty as a major building block in the theory of money demand.

The Keynesians took up absolute liquidity preference as the actual state of affairs in their enthusiasm to show that money does not matter. They argued that when liquidity preference was not absolute, changes in the quantity of money would affect only the interest rate on bonds and that changes in this interest rate in turn would have little further effect. They advanced that both consumption expenditure and investment expenditure were nearly insensitive to changes in interest rates, so that a change in M would merely be offset by an opposite and compensatory change in v or a change in the same direction in k, leaving P and T almost completely unaffected. This Keynesian argument is refuted by later writers like James Tobin, Milton Friedman and the like on the ground it assumes "that only paper securities are substitutes for money balances—that real assets never are."

Friedman points out that the issues raised by Keynes in connection with the quantity theory are clearly empirical rather than theoretical. These issues are :—

(i) Is it true that demand for money is a function primarily of current income and of the rate of interest on fixed interest-bearing securities ?

(ii) Is it true that the amount of money demanded is infinitely elastic with respect to the rate of interest on such securities at a low but infinite rate of interest ?

(iii) Is it correct that expenditures are highly inelastic with respect to such a rate of interest ? In other words, is it true that velocity is a highly unstable and unpredictable magnitude that generally varies in a direction opposite to that of the quantity of money ?

The Restatement

While challenging the Keynesian approach to demand for money on the lines stated above, M. Friedman brings about a reformulation of the quantity theory which appears to be much influenced by the Keynesian liquidity preference theory. The reformulation emphasizes the role of money as an asset and hence treats the demand for money as part of capital or wealth theory. From this point of view, it is important to distinguish between ultimate wealth-holders to whom money is one form in which they choose to hold their wealth, and enterprises to whom money is a producer good like machinery or inventory.

Friedman points out that for ultimate wealth-holders, the demand for money, in real terms, depends on the total wealth, the division of wealth between human and non-human forms, the expected rates of return on money and other assets and tastes and preferences.

It has to be noted clearly that the demand for money here does not refer to a nominal quantity of money but to a real quantity of money. The real quantity of money is the quantity expressed in terms of the volume of goods and services that the money will purchase. Such a distinction can also be seen in the earlier formulations of the Quantity Theory. In the Fisherian equation, for example, the real quantity of money is expressed in terms of the aggregate transactions of the community over a period of time. In the Cambridge Equation the demand for money, or, what Friedman calls, *the real quantity of money* is expressed in terms of aggregate net output of the community to which it is equal. In these earlier versions, so far as demand for money is concerned, attention has been focussed not on the real quantity of money but on a velocity of circulation, which is nothing but the reciprocal of a particular expression of the *real quantity of money*. The ratio, for example, of the aggregate annual transactions of a community to its stock of money is termed the "transactions velocity of circulation of money" ; similarly, the ratio of annual income to the stock of money is termed "income velocity of money." In every case, the calculation of the real quantity of money or of velocity is made at the set of prices prevailing at the date to which the calculation refers. These prices are the bridge between the nominal and the real quantity of money.

He starts with the broad concept of wealth as comprising all sources of income, including human beings, and relates the demand for money to total wealth and the expected future streams of money income obtainable by holding wealth in alternative forms. Money is only one of the five broad ways of holding wealth, viz., (i) money, (ii) bonds, (iii) equities, (iv) physical goods and (v) human wealth. Each of these has distinctive characteristics and each offers some return in money or kind. The ultimate wealth-owning unit is considerd as dividing his wealth among them so as to maximise utility subject to whatever restrictions affect the possibility of converting one form of wealth into another.

From a broad and general point of view, total wealth includes all sources of income or consumable services. From this point of view, the rate of interest expresses the relation between the stock which is wealth and the flow which is income, so that if y be the total flow of income, and r the interest rate, total wealth is W=Y/r.

The nominal return on money may be zero, as it generally is on currency, or negative, as it sometimes is on demand deposits, subject to net service charges, or positive, as it sometimes is on demand deposits on which interest is paid and generally is on time deposits. The quantum of this return in real terms per nominal unit of money clearly depends upon the volume of goods that unit corresponds to, or on the general price level, which may be designated as P. If the general price level falls, money appreciates and represents a capital gain in real terms which must be added to the nominal yield. Similarly in case of a rise in the general price level, the real capital loss has to be deducted from the nominal yield. Bonds represent those assets which yield a perpetual income stream of constant nominal amount. The return to the holder of the bond can be of two forms : (a) the annual sum he receives, and (b) any change in the price of the bond over time—a return which can be positive as well as negative. If the rate of interest on bonds is rb the nominal rate of return can be approximated by $rb-\left(\frac{1}{rb}\right)\left(\frac{drb}{dt}\right)$, where $\left(\frac{1}{rb}\right)\frac{drb}{dt}$ measures the rate of change in bond prices : here t stands for time. This sum, together with P, already introduced, defines the real return from holding wealth in the form of bonds.

Equities represent assets which yield a prepetual income stream of constant real amount. The nominal return to the holders of the equity can take three forms : (a) the constant nominal amount he would receive per year in the absence of any change in the price level ; (b) the increment or decrement to this nominal amount to adjust for changes in P, and (c) any change in the nominal price of the equity over time, which may be caused by changes either in interest rates or in price levels. The nominal rate of retrun can be approximate by $r_e+1/p\left(\frac{dp}{dt}\right)-\frac{1}{r_e}\left(\frac{dre}{dt}\right)$ This sum, together with P, defines the real return from holding of wealth in the form of equities.

Physical goods held by ultimate wealth-owning units are similar to equities excepts that the annual stream they yield is in kind rather than in money. In terms of nominal units, this return, like that from equities, depends on the behaviour of prices. In addition, like equities, physical goods must be considered as yielding a nominal return in the form of appreciation or depreciation in money value. If we suppose the price level, P, to apply equally to the value of these physical goods, then the nominal rate of return on physical goods is $\frac{1}{P}\left(\frac{dp}{dt}\right)$. Together with P, it defines the real return from holding wealth in the form of physical goods.

Human wealth is the discounted value of the expected stream of earned income. Some substitution is possible between human capital for other forms of capital. People can sell assets in order to pay for training which will increase their future earnings. At any point of time there is some division between human and non-human wealth in the assets portfolio of a person. He may be able to change this over time ; but it may be treated as given at a point of time. Let W be the ratio of non-human to human wealth or of income from non-human wealth to income from human wealth, which means that it bears a close relation to what is usually defined as the ratio of wealth to income. This is, then, the variable which should be taken into account so far as human wealth is concerned.

The tastes and preferences of wealth-owning units for the service streams arising from different forms of wealth must in general simply be taken for granted as determining the form of the demand function. Tastes can be assumed to remain constant over considerable periods of time. Explicit provision can, however, be made for some changes in tastes to the extent such changes are related to objective circumstances. For instance, it appears quite reasonable that, other things being equal, individuals want to hold a larger fraction of their wealth in the form of money when they are moving around geographically or are subject be unusual uncertainty than otherwise. Let U stand for such variables which can be expected to affect tastes and preferences.

By combining the factors mentioned above, we can obtain the following demand function for money :—

$$M = f\left(P,\ rb - \frac{1}{rb}\ \frac{drb}{dt},\ re + \frac{1}{P}\frac{dp}{dt} - \frac{1}{r}\ \frac{dre}{dt},\ \frac{1}{P}\ \frac{dp}{dt},\ W,\ \frac{Y}{r},\ U\right)$$

According to Friedman, the most important factors influencing the demand for money are the rates of return on money and other assets, both real and financial, the level of parmanent income and the ratio of non-human to total wealth. These variables are assumed to be generally subject to slow change over time and hence the demand for money is taken as a stable function. If this is so, and velocity is subject only to gradual change over time, while the stock of money may rise or fall rapidly, the obvious implication is that the demand for money is dependent of its supply. The independence of supply and demand, i.e. between money stock and its velocity, is an important proposition of Friedman's theory. Friedman points out, "Changes in desired real balances (in the demand for money) tend to proceed slowly and gradually or tend to be the result of events set in train by prior changes in supply, whereas, in contrast, substantial changes in the supply of nominal balances can and frequently do occur independently of any changes in demand. The conclusion is that substantial changes in prices or nominal income are almost invariably the result of changes in the nominal supply of money.

Friedman identifies four determinants of the demand for money. viz., (a) the level of prices, (b) the level of real income and output in the economy, (c) the rate of interest, and (d) the rate of increase in the price level. Variations in the first two determinants lead to variations in the demand for money in the same direction, while movements in the last two determinants cause the demand for money to change in the opposite direction. He accepts the belief that the demand for money is unitary elastic with respect to the price level. Variation in the real income, however, being about a more than proportional variation in the demand for money. In other words, the quantity of money people want to hold increases and decreases more than in proportion to increases and decreases in people's incomes. Thus income elasticitiy of demand for money is greater than one. He puts it as 1.8. Money, therefore, becomes a luxury. On the basis of Friedman's findings, it may be pointed out, a 1 per cent increase in permanent income can be expected to increase the demand for money by 1.8 per cent or nearly twice as much.

Given Friedman's findings that the demand for money varies directly with the price level, and the level of income, and his assertion that the supply of money is independent of these factors, it is to be expected that a change in the supply of money would bring about a change in prices or income or both in the same direction, The sharp distinction drawn between the nominal money stock, treated as a supply-determined policy variable, and the real money stock, treated as a demand-determined endogenous variable, is a striking feature of monetarism. It is also a paradoxical feature, since the monetarist approach allows the authorities' effective control over the nominal stock, while at the same time severely limiting their influence on the stock of real balances. As the authorities cannot increase the real quantity of money by printing nominal money, the result of the latter would be only to raise prices, unless there is a substantial volume of unused resources. Let us now analyse the process by which a change in the money supply is likely to bring about a change in economic activity.

Assume that the economy is in a state of equilibrium when the desire of the public to hold money is equal to the supply of money available. Let us suppose next that the central bank purchases Government securities in the open market, which increases money supply and the level of commercial banks' reserves by the amount of the purchase. Commercial banks, faced with excess reserves, will try to expand loans and investments until excess reserves are wiped out. The additional money created by banks and acquired by the public would be invested by the latter in earnings assets which are close substitutes for the ones originally given up. For example, the sellers of the Government securities may decide to invest in corporate bonds for high quality mortgages and the like. As a result, prices of these assets are likely to go up. The sellers of these assets are unlikely to keep their proceed in money. They, too, can be expected to re-invest the money in alternative earning assets. And so on the process goes on. The bidding up of prices spreads throughout the entire range of assets including real property and would also result in inventories of consumer goods. As prices of goods are bid up producers respond by increasing output. In this way, an increase in money supply is transmitted to an increase in the prices and quantities of goods and services. This transmission process ends and equilibrium is restorted only when prices and income have risen to levels which bring the demand for money up to the supply. If, as Friedman says, the price level elasticity of demand for money is unitary and the permanent income elasticity is 1.8, we should expect a 1 per cent increase in the supply of money to bring a 1 per cent increase in the price level (income remaining constant), a $\frac{5}{9}$ per cent increase in permanent income (prices constant), or, more likely, some combination.

The transmission mechanism, of the monetarist school, as just outlined, is vastly different from that found in the income-expenditure theory of Keynes. In the latter, changes in money supply affect output or prices only through its effect on the interest rate, given the liquidity preference. The interest rate changes are then used to derive the change in investment spending, the induced effects on income and consumption and so on. Monetarists do not accepts this transmission mechanism and the liquidity preference theory of interest for many reasons. In the first place, they point out that an increase in money supply may directly affect expenditures, prices and a wide variety of yields on physical assets. Hence the effect of an increased money supply need not be confined to a small set of conventional yields on financial assets. Secondly, they view that the demand for money determined the desired quantity of real balances, and not the level of interest rates. Third, they reject the notion that the authorities can change the stock of real balances—an endogenous variable—and thereby bring about a permanent change in interest rates. The monetarists reject the liquidity preferences theory of interest and point out the inability of the central bank to bring down the interest rates through an increase in money supply. Let us explain this point more fully. Suppose the central bank buys securities and, as a consequence, raises their prices and lowers their yields. In the process, it also increases the quantity of resources available to banks, hence the amount of bank credit, and ultimately the total quantity of money. That is why it is generally believed that an increase in the quantity of money tends to lower interest rates. Economists accept the same conclusion but for different reasons. They have been taught to believe that there is a negative sloping liquidity preference schedule. How can people be induced to hold a larger quantity of money ? This is possible only by lowering interest rates.

Friedman points out that the initial impact of increasing the quantity of money is to make interest rates lower for a time. But this is only the beginning of the process, not the end. The rapid growth of money will stimulate spending on investment and in other ways. One man's spending is another man's income. Increased spending thus results in increased income and the latter will raise the liquidity preference schedule and the demand for loans. It may also raise prices, which would reduce the real quantity of money. These three effects will reverse the initial downward pressure on interest rates. Friedman is of the view that this reversal of the downward pressure on interest rates will come about in something like less than a year and, after a somewhat longer interval, say, a year or two, the interest rates would rise. These effects explain why every attempt to keep interest rates at a low level has forced the monetary authority to engage in successively larger and larger open market purchases. They explain why, in actual fact, high and rising nominal interest rates have been associated with rapid growth in the quantity of money, as in the case of our country to-day, and why low and falling interest rates have been associated with a low growth in the quantity of money. Friedman, therefore, remarks : "The broad facts of experience run in precisely the opposite direction from that which the financial community and academic economists have all generally taken for granted. Paradoxically, the monetary authority could assure low nominal rates of interest—but to do so it would have to start out in what seems like the opposite direction, by engaging in a deflationary monetary policy. Similarly, it could assure high nominal interest rates by engaging in an inflationary policy and accepting a temporary movement in interest rates in the opposite direction."

To sum up, Friedman's ideas on money are based on his interpretation of economic history. On the basis of his study of history, he advances two propositions : (1) all major changes in prices and incomes are accompanied by major changes in the money supply, and vice-versa ; (2) changes in the money supply are generally independent of changes in prices and income. These two propositions, along with his emphatic denial of the Keynesian thesis that the demand for money is highly interest-elastic, led him to insist that "money is important." Friedman concludes that money not only matters in explaining major economic fluctuations, but that it is the only thing that really matters. Of course, those who do not agree with his views do not share his conclusions. Hence his ideas are still in the realm of controversy. But if the monetarist approach is accepted, the consequence can easily be imagined as a "Friedman Revolution" over-shadowing the "Keynesian Revolution", with far-reaching implications for stabilization policy.

A Critical Appraisal

A major criticism of Friedman's approach is that his results are dependent partly on the way in which he defines money. Money is defined by him more broadly to include not only currency and demand deposits, but also commercial banks' time deposits. There are two reasons for doing this. In the first place, the monetarists have found that national income is more highly correlated with money as they have defined it than with money conventionally defined. Since changes in the money supply are proved by the Chicago School to bring about predictable changes in national income, the definition of money given by them helps in the restoration of the lost glory of monetary theory. Secondly, this definition of money is based on the criterion of defining as a single good those things which are perfect substitutes for each other. It is advanced that commercial banks' time deposits are such close substitutes for currency and demand deposits that it is reasonable to treat them as perfect substitutes.

Friedman's findings that money is a luxury and that the interest rate is not an important determinant of money demand are partly due to money being defined broadly to include time deposits. When money is defined conventionally to exclude time deposits, the income elasticity of demand for money is not as high as 1.8 but is closer to unitary elasticity. This means that currency and demand deposits are not luxuries even if time deposits are. Friedman's findings that money is a luxury is therefore held by some as misleading.

More important, Friedman's broad definition of money leads to an understatement of the effect of interest rates on the demand for money. It is this broad definition of money that leads to the apparent intensitivity of the demand for money to the interest rate, which is quite contrary to the traditional teachings of our subject. Currency and demand deposits, being non-interest bearing assets, yield on explicit return. For them, the interest rate paid on alternative assets in an opportunity cost. But the same is not true for time deposits. These earn interest. The interest rate on time deposits is not a cost, but a return. Consequently, when interest rates go up, including time deposit rate, the demand for currency and demand deposits falls, but the demand for time deposits ordinarily increases. If the increase in time deposits is combined with decrease in currency and demand deposits, the decrease in the total is obviously smaller than the decrease in currency and demand deposits alone. It is partly for this reason that Friedman finds the interest rate to have a small effect on the demand for money, while other writers, defining money in the conventional manner, have found a major effect.

In view of these cirticisms, why is it that Friedman persists in defining money broadly ? He does so largely because he is convinced that a nation's output is more closely related to the total of currency, demand deposits and commercial banks' time deposits than it is to just currency and demand deposits. He believes that control of the total of currency, demand deposits and commercial banks' time deposits is the best means for achieving economic stability.

Friedman's arguments have the effect of relegating fiscal policy to a subordinate position. If, as the monetarists maintain, the demand for money and other liquid assets is not very sensitive to interest rates whereas private expenditures are, fiscal actions would be of little consequence for output, prices, employment and the balance of payments of a country. Monetary policy, defined as changes in the rate of growth of the money supply, would be of major importance. But the defenders of fiscal policy argue that "most likely money and business activity are both the results of a complex economic process" and that, without a clear explanation of why the relationship exists, the relationship alone does not prove that money is a major factor in the ups and downs of the economy and that fiscal policy is not.

The importance of the issues raised in the debate is obvious. If the monetarist school is correct, primary emphasis must be placed on monetary policy to achieve the nation's objectives of full employment, price stability, and balance of payments equilibrium. The issue has not yet been settled. A final answer to the problem still awaits the results of future empirical studies by economists.

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(Continued from page 7)

quoted Justice Shah that "Directorship till recently was regarded by some as a position of honour, and not of responsibilty. Several persons who have no qualifications to be incharge of an enterprise are being appointed directors because they have money, influence, name and pull." But currently is there any change in the basic content of this statement ? Today the nominee directors are by and large officials (who by definition are 'yes' men) or army personnel (who know only military business) or the products of political pulls. None of these groups can claim to have proved business leadership. They cannot work without back-pull either.

In Management of Development Banks a number of pointed questions have been raised by Dr. B. K. Madan. But it is difficult to find a single clean answer to these questions. It however includes a number of papers which are least controversial.

Legal Aspects of Development Banking includes, among others, a number of select addresses and talks of persons who are experts in their respective fields. The inaugural address of Mr. Niren De, Attorney General of India, is of general type, yet interesting. At one dlace he says, "the Constitution enables us to understand what it (socialism) means in our society, if we do not want to understand. It means the preservation of certain rights by an individual or an association of individuals including the right to property and the right to do business. But, at the same time, these rights are subject to such reasonable restrictions as may be imposed by law in the interest of the general public. And the interests of the general public obviously require the removal of economic exploitation of the many by the few. Thus the Constitution strikes a balance and in the process embodies a mixed economy for the public good." The relativeness of his terminologies shows that our Constitution is dynamic in force provided the social dynamism is conceived by advanced persons free from lust of power and practised in a free democratic society. The absence of this has created a social stalemate and made the mixed economy a stay. Though this aspect is not the object of the seminars, it has certainly a say in the matter of building up nominee directors. They are to work in the mixed economy to make a road to what is publicised as socialist economy. It is a gigantic task, for sometimes politics will take command and some other times economics will take command. Most nominee directors shall have simply to take than to give a command.

Farm Labour Employment and Resource Use Efficiency in the Context of Green Revolution

N. L. Agarwal* and R. A. Yadav†

The introduction of high-yielding varieties programme (HYVP) in the country since the kharif season of 1966-67 added a new hope among the scientists, planners and administrators towards the achievement of self-sufficiency in food-grains. The ordinary improved varieties yield only 10 per cent higher than the local ones ; the newly introduced Mexican exotic varieties are capable of producing double or even more compared to the local varieties. The HYVP has since then brought significant change in the farm income, human labour employment and resource use efficiency of the various resources on the farms. Out of these the issue of impact of high-yielding varieties on labour employment is most controversial.

Studies conducted in the country to examine the impact of green revolution, viz. high-yielding varieties on labour employment show that the cultivation of high-yielding varieties, higher use of manures and fertilizers and increase in cropping intensity entail greater use of human labour. However, other studies pointed out that the process of mechanization initiated with the HYV inevitably reduces the demand for labour in agriculture. The evidence about the effect on human labour employment with the introduction of HYV in the canal irrigated area is not clear.

The cultivation of the HYV in the canal irrigated area poses many problems to the farmers, agricultural economists, planners and administrators. Had the labour employment potentialities increased on

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the farms with the introduction of HYV ? Had the seasonal pattern of labour employment been affected with the introduction of HYV ? What changes had occurred in the resource use efficiency due to the adoption of HYV on the farms ? To answer these and other related problems, this study was undertaken in Kota district of Rajathan where the main source of irrigation is canals.

Objectives :

Specifically the objectives of the study are :

1. To study the impact of green revolution, viz. high-yielding varieties on the magnitude and seasonal pattern of labour employment, and
2. To compare the resource use efficiency and marginal value productivities of resources on grower and non-grower farms.

Methodology

Out of the 26 districts in the state of Rajasthan, Kota district, which besides being canal irrigated, first in acreage under HY paddy, in consumption and phosphatic and potassic fertilizers and second in acreage under Mexican wheat and in consumption of nitrogenous fertilizers in the state during 1970-71, was selected for this study. Sultanpur Panchayat Samity in the district having the highest acreage under HYV crops was choosen. From this panchayat samiti, 3 villages were selected on the same basis of highest acreage under HYV crops. The farmers of these selected villages were divided into three size groups—small (up to 8.0 acres), medium (8-15 acres) and large farms (above 15 acres) on the basis of operational size of holding. The farmers in each size group were further subdivided into growers (having 50 per cent or more cultivable area under HYV crops on the farms) and non-growers. Finally 50 farmers were selected on the basis of probability proportional to the number of farmers in the respective size groups. Data were collected by personal interview method with the help of a specially developed schedule for the period kharif 1972 to rabi 1973.

Total labour requirement, for grower and non-grower farms, was worked out by multiplying the labour requirement per acre for the local and HYV crops with their acreage on the farm. Month-wise labour requirements were examined to find out the peak and lean months of labour employment.

. Cobb-Douglas production function of the form $Y = ax_1^{b_1} x_2^{b_2} x_3^{b_3} x_4^{b_4}$ was used for estimating the productivity of the different resources due to the adoption of high-yielding varieties on the farm. Following variables were considered for this study.

Y=Gross value of the products inducing by-products in rupees.

X_1=Operational holding in acres.

X_2=Total cropped area in acres.

X_3=Total human labour in mandays.

X_4=Total human labour in mandays excluding the labour attached to bullocks.

X_5=Bullock labour in pair-days.

X_6=Total operational expenses in rupees.

X_7=Total expenses on manures and fertilizers in rupees.

X_8=Total expenses on manures and irrigation in rupees.

X_9=Total expenses on manures, fertilizers and irrigation in Rs.

The zero order correlation matrix was worked out and correlation coefficients of the different independent variables were examined. There was high correlation between most of these variables. Thus to minimize the effect of multicollinearity eight different combinations of variables were tried by the Cobb-Douglas production model. Finally the following model was selected based on the value of R^2, significance test, etc :

$$Y = ax_2^{b_2} x_3^{b_3} x_6^{b_6} \quad U$$

a=constant term of intercept on the production axis

bi's=elasticity of production coefficients of the respective independent variables.

U=error term.

Marginal value productivities (MVP) of the farm resources were worked out at their geometric mean levels. The MVPS were then compared with their respective marginal factor costs, so as to find out the over-or-under use of a resource at the specified level of other resources.

RESULTS AND DISCUSSIONS

Magnitude of Human Labour Employment

The total employment effects of the cultivation of HYV crops can be grouped in direct and indirect employment effects. In this study an attempt has been made to measure the direct employment effect on human labour of the cultivation of HYV. The human labour employment per acre of operational holding and cropped area for different size groups of grower and non-grower farms are presented in Table 1.

Table 1

Total Human Labour Employment Per Acre on Grower and Non-Grower Farms

(Labour in man-days)

Size groups	Grower farms	Non-grower farms	Income in human labour employment on grower farms over non-grower farms	
			Absolute	Per cent
Small	63.60	41.60	22.00	52.88
	(50.27)	(44.20)	(6.07)	(13.73)
Medium	66.65	60.00	6.65	11.08
	(54.97)	(52.47)	(2.30)	(4.38)
Large	72.04	31.75	40.29	129.90
	(56.60)	(39.32)	(17.28)	(43.94)
Overall	66.40	42.26	23.14	54.75
	(53.30)	(44.31)	(8.99)	(20.30)

Figures parentheses denote the human labour employment per acre cropped area.

The average human labour requirement on the grower farms is 66 mandays per acre of operational holding compared to only 42 mandays on the non-grower farms. The grower farms employed 54.75 per cent more human labour. S. S. Acharya in Udaipur district of Rajasthan state also found that on an average participant farms employed 52.8 per cent more labour than what is employed by the non-participant farms (farms having less than 50 per cent area under HYV paddy and maize) though the magnitude varied with the farm size. The studies in other states of the country have also brought out similar results. The magnitude of labour employment varied on the different size groups. The increase in labour employment was maximum on large farms (130 per cent) followed by small farms (53 per cent) and medium sized farms (11 per cent). This increase in labour employment was due to the increase in cropping intensity and cultivation of HYV on the farms.

The variation in labour requirement on different size farms due to the variation in cropping intensity can be removed by studying the figures of labour requirement per acre of cropped area. (Table-I). The average human labour employment is 53.30 and 44.31 mandays per acre of cropped area on grower and non-grower farms respectively. The labour requirement on grower farms is 20 per cent more compared to non-grower farms. The increase in labour employment is again higher on the large farms (44 per cent), followed by small (14 per cent) and medium sized farms (4 per cent). This analysis shows that the labour employment is higher on the farms growing HYV even if the cropping intensity remains same on both categories of farms. This was also supported by the study in Udaipur district of Rajasthan, where it was found that labour employment increased by 31.7 per cent on per acre of cropped area on participant farms compared to the non-participent farms. It is natural that with the adoption of HYV on the farms, cropping intensity of the farms increases simultaneously and thus there will be further acceleration in human labour requirement on the farms.

Seasonal Pattern of Human Labour Employment

The human labour employment on grower and non-grower farms was divided in different months to study the monthly pattern of labour employment. There was a vast variation in labour employment on the different sizes of farms in the different months of the year. The variation in labour employment is more on non-grower farms compared to grower farms. Among the size groups, variation is high on small farms followed by medium and large size farms.

July, October and March are the peak months of labour employment on grower farms. Among these months, labour employment was highest in the month of October due to the harvest of kharif season crops and field preparation for rabi season crops, followed by July month due to sowing season of kharif crops. These three months together accounted for more than 60 per cent or total labour employment on all sizes of farms.

The lean and peak months and days of labour employed in each month in the grower and non-grower farms by size groups are presented in Table-2.

The peak and lean months for both the groups are more or less the same. Thus, there is evidence to believe that seasonal pattern of labour use has not been affected by the cultivation of HYV. Results of Udaipur district reveal a different picture. There was a shift of the lean season from January-February to May-June and of peak season from Sept-Oct. to November-December between the non-participants and participants.

Table 2

Lean and Peak Months of Labour Employment

	Grower Farms		Non-Grower Farms	
Size group	Lean months	Peak months	Lean months	Peak months
Small	February	October	May	October
	(3)	(70)	(0)	(78)
Medium	January	October	February	October
	(4)	(238)	(5)	(204)
Large	May	October	May	October
	(20)	(710)	(0)	(168)
Overall	May	October	February	October
	(10)	(254)	(5)	(145)

Figures in parentheses indicate mandays of labour employment on the farms in the respective months.

Resources Use Efficiency and Marginal Value Productivity

The estimated regression coefficients are presented in Table-3.

Table 3

Regression coefficients of the variables, their standard errors and levels of significance

S. No.	Resources	Regression coefficients	Grower farms	Non-grower farms
1.	Total cropped area (x_2)	b_2	4.1718	5.4914
			0.2447*	0.3925
			(0.1114)	(0.2277)
2.	Total human labour (x_3)	b_3	0.4118*	0.2314
			(0.1561)	(0.3517)
3.	Total operational capital (x_6)	b_6	0.2657†	0.1665
			(0.0855)	(0.2098)
4.	Coefficient of multiple determination	R^2	0.9850	0.9022
		Σbi's	0.9222	0.7904

Figures in parentheses are the standard errors of the respective coefficients.

* Significant at 1 per cent level.

† Significant at 5 per cent level.

The regression coefficient for each input resource is less than one indicating diminishing marginal product for each of the input. The values of all the regression coefficients are positive and significant on grower farms, which suggests that the addition of inputs will increase the gross income. The elasticity coefficients are 0.2447, 0.4118 and

0.2657 for cropped area, human labour and operational capital respectively. The sum of the regression coefficients (Σbi) is less than unity and hence the decreasing returns to scale in evidence.

In case of non-growers farms, the value of all the coefficients is positive but statistically not different from zero implying that the addition of inputs will have no significant effect on gross income. The respective elasticity coefficients for cropped area, human labour and operational capital are 0.392, 0.231, and 0.166. The value of Σbi in this case also is 0 79 which is indicative of the decreasing returns to scale.

The coefficient of multiple determination (R^2) shows that all the three inputs (cropped area, total labour and total operational capital) together explain 98 per cent of the variation in gross returns on the grower farms and 90 per cent on the non-grower farms.

The marginal value productivity indicate the returns in money terms, anticipated by the addition of one more unit of a particular resource over and above the mean level while retaining the level of other inputs unchanged or fall in the returns by the withdrawal of one unit of the particular resource in the mean level retaining the level of other units unchanged.

Table 4

Marginal Value Productivity, Factor Costs and MVP/FC Ratio of Farm Resources on Grower and Non-Grower Farms

Resources	Factor costs	Existing level of Resource use (G.M.)	MVP	MVP/FC Ratio	Existing level of Resource use (G.M.)	MVP	MVP/FC Ratio
Total cropped area in acres (x_2)	300.00	9.73	319.55	1.065	9.12	346.95	1.156
Total human labour in mandays (x_3)	4.00	489.59	10.68	2 67	400.86	4.65	1.16
Total operational capital in Rs. (x_6)	1.05	3541.78	0.95	0.904	1819.00	0.73	0.695

The marginal value products and labour and capital are higher on growers farm compared to non-grower farms. The levels of use of labour and capital are also higher on this farms. These observations together indicate that there has occurred an upward shift in the production function (MVP curve) on grower farms. The same results were also found in another study conducted in Rajasthan.

The marginal value productivity of cropped area is Rs 319.55 and Rs. 346.95 per acre on grower and non-growers farms respectively. The MVP of land is slightly more than the marginal cost, thus the increase in cropped area would only slightly increase the net returns. The MVP of labour is very high (Rs. 10.68 per mandays) on the farms growing HYV compared to non-growers (Rs. 4.65 per mandays). The net marginal return of human labour is Rs. 6.68 per day on grower farms and only Re. 0.65 on non-grower farms. This shows that employment of human labour could be augmented in the production process on the grower farms for increasing the returns on the farms. The MVP of operational capital is less than one on both categories of farms. This shows that capital is over-used at exting levels of other resources on both grower and non-grower farms.

The MVP/FC ratio is greater than one for cropped area and labour on both types of farms. This means that the use of land and labour resource should be increased on the farms for increasing the returns. The MVP/FC ratio for working capital was found to be less than one in both cases, meaning thereby that capital is over-used at existing level of other resources. Either existing level of other resources needs to be increased or level of capital use be curtailed. Therefore, within the resource constraint, profit from the farm could be increased if more of human labour is employed and use of operational capital is held constant, as the benefits of investment on labour are higher relative to other inputs.

Conclusions and Policy Implications

The study revealed that the human labour use on grower farms was more by 55 per cent on per acre of operational holding (20 per cent per acre of cropped area keeping the cropping intensity at the same level) compared to non-grower farms due to the cultivation of HYV on these farms. The magnitude of increase in human labour employment was found to be more on the large farms followed by small and medium sized farms. Thus, if the level of mechanization is restricted and only selective mechanization is allowed, the HYV can go a long way in solving the rural employment problem in the country. The MVP/FC ratio was greater than one one for labour (2.67) and land (1.065) on grower farms and less than one (0.904) for operational capital. The adoption of HYV has led to shift in MVP function for labour. Even at higher levels of labour use on grower farms, the MVP is more than twice of its factor cost. Thus the efforts to alter the labour/capital factor ratio in favour of labour would lead to an increase in production and income on the one hand and employment on the other.

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ECONOMIC AFFAIRS

- World Consensus at Bucharest and India's Population Control Programme
- Economics of Shallow Tube-well Irrigation in West Bengal
- The Classical Approach to the Nature of Economic Science
- Economics of Farm Size

VOL. 21, No 3 MARCH 1976

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davp 75/691

Contents

Editorial

85 A Second Thought Needed

87 Review

Articles

D. Audikesavulu Naidu

89 World Consensus at Bucharest and India's Population Control Programme

K. Sain and S. N. Kundu

100 Economics of Shallow Tube-well Irrigation in West Bengal : Benefit Cost Appraisal (A Case Study)

K. N. Prasad

108 The Classical Approach to the Nature of Economic Science : An Appraisal—II

P. K. Chatterjee

115 Economics of Farm Size

ECONOMIC AFFAIRS

Volume 21 March 1976 No. 3

A Second Thought Needed

One of the less publicly discussed subjects is the finance of Indian Posts and Telegraphs. One of the reasons of this indifference may be the unimportant place of Posts and Telegraphs in the overall Central Budget, which runs by itself into deficit of crores of rupees. As a result it is hardly highlighted that the economics of posts and telegraphs is characterised by the significance of offsetting the rise in costs by rise in prices—a typical example of inflationary finance. As a matter of departure the Government has recently announced the new tariffs of some of the postal and telegraphic items as a prebudget measure magnifying the growing burdens of the tariffs on the small men and small newspapers, and their role as an inflationary source of rise in costs of the industries.

The Government has its reasonings. It reasons that the posts and telegraphs 'industry' is labour-intensive ; even the telecommunication branch which is capital-intensive drafts a considerable amount to feed its staff. The result is obvious. A Government source tells us that every instalment of additional dearness allowance costs the department an additional expenditure of Rs 6 crores a year and the wage bill has gone up by more than Rs 80 crores over the past two years. Consequently the existing revenues, more specifically, the returns on some items, fall short to cover the costs. What else the Government can do other than raising the tariffs when it cannot reduce the wage and operational costs ? The 'logic' is then the people must bear the additional costs so also the economy. This chasing of cost and price may not be desirable but it does happen. If the game is of short duration and of small dimensions, it may not pose any danger. But the facts are extremely contrary which should deserve sober attention of the official economists, in particular. The following will reveal roughly the position through some important indicators.

	Percentage rise in tariffs in March 1976 over 1967-68
1. Registered newspapers	
For 100 gms	150
For 200 gms	233.3

	Percentage rise in tariffs in March 1976 over 1967-68
2. Parcels	
For 400 gms	150
3. Registration fee	264
4. Insurance fee	
Value up to	
Rs 100	150
Per Rs 100 thereafter	
up to Rs 5000	150
Per Rs 1000 thereafter	
up to Rs 10000	200
5. Book packets containing periodicals registered with the Press Registrar	
up to 100 gms	87.5
Per 50 gms thereafter	233.3
6. Letters (1968-69)	
up to 15 gms	66.6
Per 15 gms thereafter	50
7. Post Cards (1968-69)	
Single	150
8. Inland Letter (1970-71)	33.3
9. Money Order Commission (1968-69)	
For Rs 10.00	66.6
10. Value Payable Articles (1968-69)	
Exceeding Rs. 20.00	900
11. Telephone (1969-70)	
For each extra call	100
Annual Rental under Measured Rate System (1967-68)	733.3

Informed circle claims that the current upward revisions of postal tariffs will wipe out not only the current deficit of Rs. 50 crores but will also create a handsome surplus of Rs 50 crores. So far so good. But for the future all depends on 'costs' which seem to be the making of the "invisible hands."

Review

The Gazetteer of India, Volume III, Ministry of Education and Social Welfare, Government of India, Edited by P. N. Chopra, 1975, Price Rs 90.00.

In this voluminous work "an attempt has been made to tell the story of transition of an old civilization to a new nation, of the change from the traditional to a modern economy." Writes, in the Foreward, Mr. S. Nurul Hasan, Minister of Education, Social Welfare and Culture. A number of eminent persons participated in telling the intelligent people the story of transition and the brith of a new nation. Most of the writings are of narrative in contents and are therefore boring for an intelligent assessment. An intelligent man's curiosity will be to know how far, if any, the "transition" is at end, and with what welfare (socialistic) values. He will be shocked to learn that "even by the middle of the Seventh Plan per capita consumption of the poorest 30 per cent would be below the minimum desirable level of consumption of Rs. 40.6 per month at 1972-73 prices."

The Gazetteer will be a useful handbook for the students in Indian economics.

Mathematics for Economists, B. C. Mehta and G. M. K. Madnani, Second Revised Edition. 1975, Sultan Chand & Sons, New Delhi, Price Rs 15.00, De Luxe Rs 20.00.

There are a few books on mathematics for economists written by Indian authors. The authors therefore deserve encouragement. The book itself is a simple approach to higher mathematics for the students of economics with some mathematical grounding. The topics are selective. The students will find the book helpful.

Writings and Speeches of Professor D. R. Gadgil on Co-operation, Gokhale Institute of Politics and Economics, Poona, Orient Longman Limited, Calcutta, 1975, Price Rs 30.00.

This volume consists of the writings and speeches of late Professor D. R. Gadgil, a pioneer in cooperative economics. An ardent supporter of cooperation in the field of economics he made a number of valuable path-findings recommendations to break through the backwardness of India through intensification of the spread of the duly formulated ideas of cooperation in all spheres of social life. The volume is divided into three parts. Part I is headlined as "Towards a co-operative commonwealth"; Part II makes an experimental study of the cooperation and economic development, and Part III sums up Professor Gadgil's contribution to cooperation in sugar industry.

The volume is a publication in honour of Professor Gardgil's eminence in cooperative economics. Students in cooperation shall find in a single space what immense of wealth he has left behind for their learning and knowledge.

Commerce Yearbook of Road Transport 1974-75, Edited by Vadilal Dagli, Commerce (1935) Ltd, Bombay, 1975, Price Rs 25 00.

The publication provides useful uptodate development in road transport in India. The contents include road transport, in retrospect, automobile industry, the aspects of nationalised road transport and the fleet strength of state road transport undertakings as on March 1974. Transport students are generally handicapped by paucity of information on road transport. The Commerce has done a great service to them by bringing out this valued work.

A Fresh Look On Indian Tea, M. C. Moitra, Published by B. Moitra, 55, Brindaban Mullick Lane, Howrah, 1975, Price Rs. 20.00, $ 2.36.

In a 106-page monogram Sri M. C. Mullick dwells on a number of topics from the 'Story of Tea' to 'Proposal for International Tea Promotion Council',' including such complicated topics as auction system and prices and the controversial Dutch System of Auction. The result is, in spite of his best effort, he could not make much justice to any topics. His comments are apt and provocating.

World Consensus at Bucharest and India's Population Control Programme

D. Audikesavulu Naidu*

1. Introduction

The size of the earth remained the same but its inhabitants are multiplying rapidly. This human tide might have crossed the 4 billion mark. "If it continues", Dr. Norman Borlaug Warned, "we will destroy the species." It is threatening more the lower half (Southern) of the planet rather than the upper half (Northern). To slow down this Human avalanche, representatives of 136 nations gathered at Bucharest in August, 1947 and evolved a 'World Population Plan of Action'.

It seemed there was no unanimity of views on the question of population as revealed by world Population Conference background papers. Only 30% of the countries considered that their population growth was too high. Remaining countries viewed that their population growth was either satisfactory or too low. There was a split among some of the developed and developing countries on the ways and means of population control.

Some of the participants from developed countries argued that population growth was the main obstacle for social and economic development in less developed countries. Birth control is the prime panacea for most of the hazards faced by the developing countries. Many participants from developing countries attacked the Draft Plan of Action. Chinese delegate vehemently argued that family planning was not a cure for poverty. The real cause of poverty and backwardness was social justice and not population growth. There should be no family planning until people attain certain standard of living. He went to the extent of saying that 'the future of mankind is infinitely bright. Professor Lucille Mair of the Social Development Commission

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* Research Fellow, Population Studies Centre, S. V. U. College, Tirupati.

UTTARPARA

in Jamaica has given the message : "take care of development and fertility will take care of itself." Some of the delegates of developing world citing European demographic transition, opined that the motivation for small family will come quite naturally with the changing socio-economic structure. They warned the Western World to put an end to limitless consumerism and called for more selective economic growth. They emphasized the need for international cooperation to prevent the human catastrophe. This divergence has led a 'funding father' of family planning, John Rockefeller, to confess that the "Population Planning must be seen with the context of economic and social development. Thus the world consensus is that fertility control and socio-economic development should go hand-in-hand." A comprehensive statement on this was made by the U. N. General Assembly when it expressed its belief 'that demographic problems require the consideration of economic, social, cultural, psychological and health factors in their proper perspective."

Nevertheless, the population plan of action agreed at Bucharest is not free from loopholes. The world population plan of action is not a plan of action but a plan of *escape* for many countries. It does not contain any specific targets or goals to reach. The plan assumed that the annual rate of growth of population in developing countries will decline from 2.4% to 2% by 1985, without any provision for the infrastructure. Razia S. Ismail has criticised that "the plan get finalised without including a workable definition of the term 'development'." International cooperation is a precondition for the success of the population plan. In contrast the development aid constituted only 0.25% of the total GNP of the developed countries as against the 1% target set by the United Nations. However, the success of the plan in India depends on its implementation and how it tackels the problem of poverty, malnutrition, illiteracy, high infant mortality, and unemployment.

2. Relationship Between Economic Development and Population Growth

Theory of Demographic Transition : A process of change from high-mortality/high-fertility to low mortality/low-fertility came to be called as the Demographic Transition. Medical advancement and improvement in health and hygiene brought down the mortality, while industrialisation, urbanisation and increased standard of living influenced the fertility reduction in the European countries during 19th century.

Unfortunately 19th century European experiences are markedly different from the experiences of the developing countries of the 20th century. Because in the West, throughout an extended period of industrialisation, national rates of natural increase seldom rose above 1%, and the population doubled only every 70 years. In contrast, the average rate of population growth in the developing countries now aproximately 2.6%annually, which means a doubling in only 27 years.

The U. N. Threshold Hypothesis : According to this hypothesis, "in a developing country where fertility is initially high, improving economic and social conditions are likely to have little if any effect on fertility until a certain economic and social level is reached, but once that level is achieved, fertility is likely to enter a decided decline and to continue downward until it is again stabilised on a such lower plane." However, James E. Kocher has observed that "the 1963 U. N. Study was not very successful in being able to specify threshold values for the low income world taken as a whole". It gave little attention to distributional aspects of socio-economic development.

The efficacy of world population plan of action in India depends on the emphasis given to rural health, primary education, rural income distribution and rural living conditions, etc. Dr. Karan Singh, India's Health and Family Planning Minister, admited at Bucharest conference that "the one outstanding weakeness of our Family Planning Programme is our incapacity to get beyond the upper strata of society". Antinatalist behaviour can be brought only after assuring health, education and and other economic opportunities to the rural people; who constitute 80% of the population. 'This element has so far been largely missing in our policy framework.'

3. Health Services

Though we have achieved remarkable decline in death rate after 1920, we are yet to allay some of the fears of rural parents that all the children may not survive to adulthood. This may be due to westernised health services and consequently the emphasis was more on medicines than on paramedical personnel.

A comparative study of the organisation of health services in some developing countries with high and low infant mortality rates reveals this type of approach. As it may be seen from the Table 1, there was not even one midwife per 10 thousand population (except India) in the countries with high infant mortality rates. Whereas in the countries of low infant mortality rates, there was a midwife at least for 5 thousand population. In India insufficient attention has been given to the health needs of rural people, who constitute bulk of the population. For 10 thousand population there was only one midwife in India compared with 3.7 thousand population in Sri Lanka. This kind of health strategy enabled Sri Lanka to bring down the infant mortality rate to 45 per 1000 live births compared with 139 in India. Decline in infant mortality rate ensures increased life expectancy of rural population which influences the birth rate. "An examination of cross-sectional data for the 25 most populous countries", says Lester Brown of Overseas Development Council, "shows that for each increase in life expectancy of one year, birth rates drop by one." Thus due exphasis should be given to paramedical persons who are in touch with rural people. In this context the role of 'barefoot doctors' in China is appreciable.

Table I

Levels of Health Services and Infant Mortality Rate in Some Developing Countries

Country		Population (in thousands)			Infant Mortality rate (per 1000 live births) 1970-75
		per physician	per nurse	per midwife	
1. Afghanistan	(1971)	19.0	41.0	37.0	182
2. Iran	(1973)	3.3	2.5	13.0	139
3. India	(1971)	6.0	8.0	10.0	139
4. Peru	(1968)	1.9	0.8	13.0	110
5. Algeria	(1969)	8.2	3.0	26.0	128
6. Sri Lanka	(1972)	4.1	2.0	3.7	45
7. Taiwan	(1972)	1.3	1.5	1.9	28
8. Korea(Republic of)	(1971)	2.0	2.0	5.0	60
9. Mauritius	(1971)	3.7	1.0	5.6	65
10. Hong Kong	(1971)	1.7	0.7	5.4	17

Source: (1) For levels of Health Services—Reports on Population/Family Planning, No. 2, December 1974 (A publication of the Population Council).

(2) For infant mortality rate—1975 World Population Data sheet of the Population Reference Bureau, Inc.

4. Education

It was observed that there was a positive correlation between literacy and motivation. However, the size of literacy in less developed countries depends on the educational policy they have. Hitherto the pattern of educational expenditure in India was not directed towards removal of illiteracy in rural areas. Our educational system was not accessable to a much wider segment of total population. As it may be observed from the Table II, on average 28% of educational funds (except first and fifth plans) were distributed on primary education and 20% on university education. Whereas, South Korea, for instance, attained 80% literacy with an allocation of 52% on primary education and 14% on collegiate education. Even after more than 20 years of developmental planning, still 70% of the Indian population remained illiterate. This situation is being aggravated by rampant drop-out rate. Though the percentage of enrolment in the age-group 6-11 has been increased from 35 in 1947-48 to 84 in 1973-74, only 35 per cent has been enrolled in the age-group 11-14 during 1973-74. Thus the emphasis on school education enables bulk of the young population to receive formal schooling.

Table II

Percentage Distribution of Expenditure by Levels of Education in India and South Korea

Levels of Education	First Plan	Second Plan	Third Plan	Annual Plan	Fourth Plan	Fifth Plan	Average (excluding I&V plans	South Korea (1970)
Elementary Education	56	35	30	20	28.5	50.0	28.5	52
University Education	9	18	15	24	22.3	12.6	20.0	14

Source : (1) Records of Statistics—Quarterly Bulletin of Eastern Economists Vol. 24, No. 1, November 1972.

(2) Grant and Rich—Development, Social Justice and Family Size (The American Review, Autumn 1974).

5. Equal Distribution

James E. Kocher has rightly observed that "if rural development is distributed widely and fairly equally, one important consequence will be sustained over-all fertility decline. If rapid agricultural growth takes place only in a highly commercial enclave sector, which in the bulk of the rural population does not experience rising incomes and levels of living, significant overall fertility decline will not take place." Unlike in India, Taiwan's agricultural development and the resulting improvement in rural living condition, were equally distributed, because of land reforms implemented in the early 1950s. A ceiling of 7.5 acres on individual land holding was imposed and the average size of the holding was 2.2 acres. It was one of the major factors responsible for decline in Taiwan's birth rate to 24 per 1000 population in 1971. Green Revolution in India has not improved the living conditions of bulk of rural population due to skewed land ownership. Dandeker and Rath have estimated that nearly 60% of the rural hoseholds did not cultivate any land or less than 2.5 acres each and further they cultivated only 7% of the total land. Massive Family Planning Program in India is yet to integrate with rural life, because it lacked certain accompaniments and thus the birth rate remained still around 37 per 1000 population.

However, Dandekar and Rath considered it futile "to try to resolve the problem of rural poverty in a over populated country by redistribution of land which is short supply". Therefore it was considered that after completing effective implementation of 'preventive' type of land reforms, attention should be shifted towards planning for the development of the non-agricultural sector of the rural economy.

6. Status of Women and Fertility

High rate of population growth not only retards economic and social progress, but also suppresses the status of women, particularly in the spheres of education, employment, family and public life. Effective birth planning is associated with the equal participation of women in the developmental process. In many countries the birth rate remained high to lower participation of women in education and employment. Table III shows that in some of the developing countries (Taiwan, Korea, Sri Lanka, etc.) with a birth rate less than 30 per thousand population, the proportion of literate females aged 15 and over was more than 50% during 1960-70. Sex differentials in literacy were also smaller in these countries. In countries like India and Pakistan, the proportion of literate females aged 15 and over was less than 15% and the ratio of females to male literacy was alse lower. Consequently, the birth rate persisted at higher level.

Similarly, female employment accompained by female literacy has its influence on fertility. Female employment provides some alternative for child bearing and rearing. Women, being half of our population, stayed outside the mainstream of social, economic and civic life and by this we are loosing half of the contribution to society. There are glaring inequalities between men and women participation in work.

Table III : Relationship between female education, female employment and fertility

Country	Per capita GNP in (U.S. $) (1972)	Estimated birth rate per 1000 population (1972)	Percentage of literate males and females and ratio of female to male literacy (1960-70)				Percentage of Economically active males and females and ratio of female to male activity rates (1970-72) All age			
			Year	Male	Female	Ratio Female to Male	Year	Male	Female	Ratio Female to Male
1. Mauritius	300	24.9	1962	72.5	50.6	0.70	1962	47.9	10.3	0.22
2. Republic of Korea	310	28.0	1960	83.4	58.2	0.70	1966	40.7	18.5	0.45
3. Hong Kong	950	19.8	1961	90.2	51.9	0.58	1971	54.8	28.8	0.52
4. Chile	800	27.0	1970	89.0	87.3	0.98	1971	45.6	15.2	0.33
5. Taiwan	421	23.8	1972	92.0	80.0	—	1966	50.0	16.1	0.32
6. Sri Lanka	110	29.5	1963	85.6	64.1	0.75	1969-70	45.2	13.1	0.29
7. Pakistan	130	45.0	1961	28.9	7.4	0.26	1968	58.0	8.8	0.15
8. India	110	38.0	1961	41.5	13.2	0.32	1971	52.4	13.2	0.25

Source : 1. For GNP—World Bank Atlas—1974,

2. For Birth Rate—Reports of Population/Family Planning, No. 2, Sixth Edition, December 1975.

3. Women's Rights and Fertility, Ruth B. Dixon, Reports on Population/Family Planning No. 17, January, 1975.

Though the employment and fertility relationship is less clear from the above table, it gives an idea of the share of women participation and the resulting lower birth rate. Recognising the importance of women contribution to society, United Nations nominated 1975 as the International Women's Year.

One of the heartrending things in India is low age at marriage for women, which deprives women from education and employment opportunities. The unified force of higher age at marriage for women, female literacy and female employment will go a long way in effective birth planning. Thus Ruth B. Dixon aptly remarked that the "women can be a driving force in society or they can retard progress. Much depends on the priorities set by development planners."

7. Rural Infrastructure and Communication

Various studies have revealed that rural infrastructure has a bearing on fertility behaviour of rural population. In the words of of Rafael Sales, "For the effective promotion of population programmes, you need above all a comprehensive and effective network of communication, information and education." India is a nation of villages with inadequate infrastructural facilities. Infrastructure not only removes socio-economic backwardness, but also provides effective family planning services. "In Gorakpur region of Uttar Pradesh it has been observed that the level of birth rate was 44 per 1000 population for the villages which did not have an all weather road with 5 kms, as against 32 to 37 per 1000 population for such villages which had an all weather road within 3 kms."

Population problem in India is mainly a rural problem, which requires rural solution. Development planners should switch their policy emphasis from urban-bised to rural development programmes—that is by emphasizing on paramedical health system, by stressing on school education, by redistributing rural wealth, by recognising rural women's contribution to society and by building rural infrastructure William Rich summarizes well in his monograph the arguments for an approach to the population problem which goes beyond family planning :

"In a number of poor countries, birth rates have dropped sharply despite relatively low per capita income and despite relative newness of family planning programmes. The common factor in these countries is that the majority of population has shared in the economic and social benefits of signicant national progress to a far greater degree than in most poor countries or in most Western countries during their

Table IV : Ranking of States by Some Selective Indicators of Development and Fertility Control

States	Per capita State Income	Mileage of surfaced roads	Number of factory workers per lakh population	Literates per 1000 population	Hospital beds for lakh population	Per capita cosumption of electricity	Percentage of urban population to total population	Percentage of couples protected by family planning up to March 1973
1. Andhra Pradesh	11	7	9	12	7	14	8	8
2. Assam	9	16	10	9	12	17	16	13
3. Bihar	16	11	11	15	—	11	15	14
4. Gujarat	4	10	3	4	—	3	3	5
5. Haryana	2	5	—	10	9	7	10	3
6. Jammu and Kashmir	12	17	16	17	1	16	9	16
7. Kerala	14	1	6	1	2	10	12	4
8. Madhya Pradesh	9	13	12	13	14	13	13	10
9. Maharashtra	3	6	2	3	5	2	1	2
10. Mysore	10	3	8	7	4	9	5	12
11. Orissa	17	12	13	11	11	6	17	7
12. Punjab	1	4	4	5	6	1	6	1
13. Rajasthan	15	14	14	16	8	15	11	17
14. Tamilnadu	5	15	5	2	—	4	2	6
15. Uttar Pradesh	13	9	15	14	13	12	14	15
16. West Bengal	7	2	1	6	3	5	4	11
All India	6	8	7	8	10	8	7	9

Source : 1. Economic and Statistical Bulletin, Jan-March, 1973.
2. Family Welfare Planning in India, Year Book 1972-73.

comparable periods of development. Appropriate policies for making *health, education, and jobs more broadly available to lower income* groups in poor countries contribute *significantly toward the motivation* for smaller families that is the prerequisite of a major reduction in birth rates. Combining policies that give special attention to improving the well-being of the poor majority of the population with large-scale, well-executed family planning programmes should make it possible to stabilize population in developing countries much faster than reliance on either approach alone."

8. Indian States

A comparative study of performance of family planning among the states of Indian Union also underlines the same relationship between fertility control and general economic and social development. Higher contraceptive practice can be seen in the states, where per capita state income is higher, which are industrially advanced, where energy consumption is moderate, where education and literacy are progressed, where rural health services are working well and where roads and communications are well developed. Table-IV shows that the states of Punjab, Maharatra, Haryana and Gujarat have scored top ranks not only in the percentage of couples protected by family planning but also in the selected indicators of development. In the ascending order, the states of Rajasthan, Jammu and Kashmir, Uttar Pradesh, Bihar, Assam scored last ranks both in development and family planning.

Significant achievement of family planning in Kerala may be attributed to progress of literacy and health services, higher age at marriage and infrastructure. High level of literacy and age at marriage accompanied by industrial development account for increased acceptance of family planning in Tamilnadu.

Table V : Coefficient Correlations

	Variables	(r)
1.	Per capita state income	0.66
2.	Mileage of surfaced roads	0.53
3.	Number of factory workers per lakh population	0.75
4.	Literates per 1000 population	0.76
5.	Hospital beds per lakh population (Excluding Bihar, Gujarat and Tamilnadu)	0.10
6.	Per capita consumption of electricity	0.78
7.	Per cent of urban population to total population	0.46

As in the Table IV coefficient correlation by rank order method is calculated to find the relation between socio-economic factors and performance of family planning in 16 States. These factors are considered *individually* and *all* these are *found* to be *significantly* related to the percentage of couples protected by family planning. It is also interesting to know that in all these cases the relation was positive. The degree of significance varied from 0.46 in case of per cent of urban population to total population to 0.78 in case of per capita consumption of electricity. The variable hospital beds per lakh population is comparatively less significant, which indicates India's 'inefficient' and 'inequitable' health policy. It is only during the Fifth Plan India has switched over to a new health policy emphazing the rural health delivery system, training of lower-level health auxiliaries and the integration of family planning and general health services.

Conclusion

The experiences of some of the developing countries have shown the existence of strong correlation between socio-economic well-being and fertility. Accordingly the countries like India have to start redesigning development strategies in order to focus on the basic socio-economic needs of their rural population in the light of World Population Plan of Action.

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Economics of Shallow Tube-well Irrigation in West Bengal : Benefit Cost Appraisal (A Case Study)

K. Sain* and S. N. Kundu**

In the background of a widespread belief about a good deal of malinvestment in the river valley and other agricultural projects over the years of the Five-Year Plans* due to, *inter alia,* inadequacy or ignorance or negligence of economic calculus and insufficient application of investment criteria in choosing a project in a particular line of production as well as between different lines and of preference, of late, for minor and medium irrigation projects, a venture is made here to present the data of benefits and costs of shallow tube-well irrigation in a small area of West Bengal with a view to facilitating comparison of economics of similar small projects elsewhere in the country vis-a-vis those of large projects in this particular line as well as in other lines of agricultural production.

Learning from the office of the Block Development Officer, Haringhata Block in the District of Nadia, West Bengal, that a cluster of eleven shallow tube-wells are being financed in this Block by three nationalised banks—Allahabad Bank, Bank of Baroda and Bank of India for perennial cultivation, we held a first-hand enquiry and know that three of these eleven tube-wells were installed in March, 1972 and have been in operation since the beginning of the next agricultural year, June 1972-May 1973 thereby completing a full agricultural year, while the rest of the shallow tube-wells could be installed afterwards and could not cover one full agricultural year. A personal investigation into the economics of the farms affected by these three shallow tube-wells was conducted by the authors in the months of July-August, 1973. Altogether fifteen farms belonging to three contiguous villages, Panpur,

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Satberi and Basatapur of the Haringhata Block of the dristrict of Nadia, were found to utilize irrigation water from these shallow tube-wells right from the beginning of their operation. Of these three farmers subscribed to the cost of the shallow tube-wells while the rest of twelve farmers received irrigation water against payment of irrigation charges. In selecting the farmers and the land to be in the command area of these shallow tube-wells, only these farmers and those plots were covered by the enquiry who and which are being actually benefited and are likely to continue to get their benefits over the usual full life span of the shallow tube-wells. Usually fifteen years are found to be active period of the shallow tube-wells with five H. P. pumps and operated electrically—the three shallow tube-wells under investigation are of this type. Extra area which could be irrigated at the risk of over-working the machines and of reducing there usual active life is excluded from the coverage of investigation. Selected farmers practised cultivation on their individual holdings bearing full risk of their ventures.

Avoiding controversy on suitability as between different criteria for agricultural investment, such as relative efficiency from the point of view of cropping pattern, technological superiority, import-content, capacity to produce more and/or with shorter gestation period, on the one hand, and the risk of recommending a project simply for its smallness and the attendant advantages such as relatively low foreign exchange need, light pressure on transport, and case of decision making and financing, a recourse to evaluation of benefits and costs both for the year already covered and for the full life term of the machines appearing acceptable, the present task was undertaken. Calculations are limited mainly to direct and tangible benefits but no pain has been spared to enlist the intangible and secondary benefits in terms of population and area affected by these shallows also. The farmers under investigation reported how their increased net income flowing from the irrigation and resulting extra crops and yields enabled them to repay a significant portion of the loans from the banks granted for the tube-wells. They are also optimistic about their better economic position in the near future and expect to earn sufficient farm surplus to able to pay for electricity charges for domestic consumption to adopt means for better processing of farm products, and to do similar other remunerative work. Improvements in communication which may follow enchanced farm output and increased agricultural surplus and increased demand for non-farm materials are expected to improve their lot still more. In the following paragraphs, however, only those items of benefiits and costs which are quantifiable and measurable in terms of money have been included in estimation. Annual benefits and costs of the venture have been discounted and compounded respectivly at the courrent rate of interest in vogue. Excess of total discounted net returns over total compounded costs for the full active period of the installations has been calculated keeping in view of the fact that in the context of limitations of resources in relation to need that · project will recommend itself for which such excess is the highest.

The fiften farms beloging to three different operational size groups in the commend area have total net cultivated area of 56.21 acres of which 42.89 acres are under irrigation from different sources. The three shallow tube-wells under investigation irrigate 23.22 acres, the rest of the 42.89 acres of total irrigated area being irrigated from other sources including a deep tube-well operating in the adjacent area. 41.19 per cent of the total net operated area of the affected farmers are under the three shallow tube-wells. These are small and minimum sized farms cultivating, on the average, a net area of 3.75 acres in the crop year, 1972-73.

Annual expenditure incurred on seeds, manure, fertilizer, insecticides, irrigation, labour, ploughing and transport, etc. increased from Rs. 3888.25 in the crop year 1971-72 to Rs. 20703·87 in the crop year 1972-73, i.e., after irrigation. The entire expenditure on these heads was incurred for growing Aman paddy only in 1971-72 due to lack of irrigation facilities. In the succeeding year Aman and Boro paddy, these two crops could be raised. Break-up of the total expenditure of Rs. 20703.87 was Rs. 5618.55 for Aman paddy and Rs. 15085.12 for Boro paddy. Local varieties of Aman paddy continue to be cultivated by the farmers concerned. High-yielding variety of Boro paddy could be cultivated only after irrigation. Cultivation of Boro paddy was not possible in these lands before installation of these shallow tube-wells. The excess of the total of costs on these inputs as incurred after irrigation and before irrigation is the associated cost of the total benefits obtained after irrigation is Rs. 16815.42, which has to be deducted from the value of additional benefits received after irrigation to get net annual benefits of the shallow tube-wells (B).

The Table 1 displays market value of crop production both before and after irrigation as well as for different operational size-groups of holdings. Total increase due to irrigation by shallow tube-wells is Rs. 43216.50—about 90% being due to cultivation of Boro paddy, a new second crop and the boon of irrigation.

Original investment in shallow tube-well installations as well as other tangible costs such as on account of the land taken out of production for installation purpose and of operation and maintenance, total as well as converted annual sums (c) are shown in the Table 2 along with total annual benefits (B) flowing from the shallow tube-wells. Total costs have been converted to annual basis by using this amortization formula :

$$\text{Annual cost of capital investment} = P\frac{r(1+r)^n}{(1+r)^n-1}$$

Where, P=Capital investment, r=Current rate of interest (10% per annum excepting in the case of market value of land for which 4% annual rate of interest has been used), and n=the number of years of useful life of the plant and installations (15 years except pump-house for which this has been taken to be 30 years).

Repair and maintenance cost per annum has been taken to be constant over the total number of useful years of the installations. The excess of total annual benefits excluding associated costs (B) of Rs. 26401.08 over total annual costs (C) of Rs. 3491.26 gives us the measure of net annual benefits (B-C) from the three shallow tube-wells under investigation—Rs. 22909.82.

The ratio of benefit to cost (B/C) stands out to be

$$\frac{\text{Rs. } 26401.08}{\text{Rs. } 3491.26} \text{ or } 7.56 : 1$$

Net benefits per rupee of cost incurred (B-C)/C is

$$\frac{\text{Rs. } 26909.82}{\text{Rs. } 3491.26} \text{ or } 6.56 : 1$$

It appears thus that benefit is quite high in relation to cost in this venture.

The discounted value of the series of net returns over the fifteen years period of the operation of the shallow tube-wells (V) has been found to be Rs. 201432.28 taking a constant rate of interest of 10 per cent per annum found to be in vogue in the locality and using the formula :

$$V = \frac{B_1}{(1+i)} + \frac{B_2}{(1+i)^2} + — + \frac{B_t}{(1+i)^t} + — + \frac{B_n}{(1+i)^n}$$

Where, i=annual rate of interest and V and B knowns. This can be expressed, in fine, as follows :—

$$V = \sum_{k=1}^{15} \frac{B_K}{(1+\frac{10}{100})^K}\text{, } B_1, B_2, \ldots\ldots, B_{15} \text{ standing for the streams}$$

of gross profits, $(R_1-C'_1)+\ldots\ldots\ldots+(R_n-C'_n)$, R and C respectively standing for annual gross return and annual associated cost.

Table I

Value of Crop Production of Different Crops Before and After Irrigation*

Size-group of operational holdings (in acre)	Area irrigated by shallow tubewells : Net (in acres)	Value of crop production before irrigation (Rs.)		Value of crop production after irrigation (Rs.)		Increase in value due to irrigation (Rs.)		
		Aman	Boro	Aman	Boro	Aman	Boro	Total
1	2	3	4	5	6	7	8	9
0-3.5	7.56	1848.00	—	2166.00	10054.00	318.00	10354.50	10672.50
3.5-7.0	8.16	2445.00	—	4539.00	11210 00	2094.00	11210.00	13304.00
7.0-above	7.50	4360.00	—	5576.00	18024.00	1216.00	18024.00	19240.00
Total	23.22	8653.00	—	12281.00	39588.50	3628.00	39588.50	43216.50

* Market price of both Aman and Boro paddy varies from season to season from Rs. 30=00 to Rs. 40=00 per kgs, for the two years under study.

Table 2

Estimates and Comparisons of Costs and Benefits of the Project of 3 Shallow Tube-wells, Financed by the Bank of India with a Command Area of 23.22 Acreas

	COST					
Size-group of operational holdings (in acres)	Total initial investment (in Rs.)		Other costs including land (Rs.)	Other costs discounted with rate of interest and converted to annual cost (in Rs.)	Annual operational and maintenance cost (in Rs.)	Total Annual cost (converted to annual basis) (in Rs.) (C)
	Total	Amount converted to annual basis				
1	2	3	4	5	6	7
0-3.5	—	—	—	—	—	—
3.5-7.0	6317.00	789.90	1575.00	154.20	285.00	1229.10
7.0-above	12634.00	1579.80	3144.00	308.16	375.00	2262.96
Total	18951.00	2369.70	4719.00	462.36	660.00**	3492.06

[Contd.]

Continuation of Table 2

BENEFITS

Crop-land irrigated (in acres)	Value of crop produced (in Rs.)		Increase due to irrigation (Rs.)	Associated costs incurred by farms (in Rs.)	Excess of annual benefits over associated costs (in Rs.) (B)	Cost-benefit ratio B/C
	Before irrigation	After irrigation				
8	9	10	11	12	13	14
7.56	1848.00	12520.50	10672.50	5075.50	5597.00	—
8.16	2445.00	15749.00	13304.00	4882.00	8422.00	6.85 : 1
7.50	4360.00	23600.00	19240.00	6857.92	12382.08	7.56 : 1
Total 23.22	8653.00	51869.50	43216.50	16815.42	26401 08	7.56 : 1

The discounted value of the series of costs of the project over the entire life of the installations (Q) has been estimated to be Rs. 26674.49, using the same 10% rate of interest and the following formula :

$$Q=\frac{C_1}{(1+i)}+\frac{C_2}{(1+i)^2}+\cdots\frac{C_r}{(1+i)^r}+\cdots+\frac{C_{15}}{(1+i)^{15}}$$

where, Q, C and i are knowns.

This can be put briefly as follows :

$$Q=\sum_{k=1}^{15}\frac{C_k}{(1+\frac{10}{100})^k},\ C_1,\ C_2\ldots\ldots C_{15}$$ standing for the total annual capital costs.

The excess of V over Q indicates more specifically whether an investment project is economically feasible or not. If $V-Q$ implying thereby that the marginal efficiency of investment is higher than the rate of interest, then the project in question may recommend itself if this excess of V over Q is the greatest among alternative projects which may be undertaken at a particular point of time and in particular region or in a country. In the case of the three shallow tube-wells under consideration, $(V>Q)$ has been found to be Rs. 174757.79, $V/Q=7.55$ and $\left(\frac{V-Q}{Q}\right)=6.55$.

It may be noted that notwithstanding the possibility of variation in annual costs and returns due to both endogenous and exogenous factors, such as, improvement in productivity due to innovation of better methods of production and their utilisation, obsolescence of farm assets, changes in cropping intensity etc., annual sums have been taken to be constant over the fifteen years in discounting of returns and compounding of costs with a view to getting first-hand idea about the relative benefits of such projects with relatively less computational and other difficulties. For similar reasons, impact of possible price fluctuations on returns and costs has been ignored.

Taken by itself the venture of investment in these shallow tube-wells appears economically worthwhile. The high benefit cost ratio revealed by the investigation and evaluation of the shallow tube-wells, if not out-weighed by non-economic and other judgements and if substantiated by similar and more comprehensive studies, ought to add to the popularity of such means of minor and medium irrigation for enhancing welfare of the farmers in particular, and the people, in general, even within the framework of a small peasant's economy.

The Classical Approach to the Nature of Economic Science : An Appraisal—II

K. N. Prasad*

Say regarded political economy as an observational science but called it experimental (meaning by it empirical). In his work it became a purely theoretical and descriptive science. The role of the economist, like that of the physicist was not to give advice but simply to observe, to analyse and to describe. In a letter written to Malthus in 1920 he spoke thus of the economist, "He must be content to remain an impartial spectator. What we owe to the public is to tell them how and why such-and-such a fact is the consequence of another. Whether the conclusion be welcomed or rejected, it is enough that the economist should have demonstrated the cause ; but he must give no advice." The laws of economics, like those of physics, were not the work of men. They were derived from the very nature of things. They were not established. They were discovered. They were universal, and were not bound by time and space. Like physics, political economy was not concerned so much with the accumulation of particular facts as with the formulation of a few uniformities.

Malthus considered political economy to be 'a science of tendencies'. He criticised Smith for placing too much emphasis on the production of wealth, and not enough emphasis on its distribution. He believed that man, like the soil he cultivated, was so variable that political economy approached more nearly to the science of morals and politics rather than to the strict science of mathematics.

Ricardo was not a utilitarian. His busy and positive mind had no philosophy or sociology at all. There was no "ideological overtones or any smell of wishful thinking" in his pursuit of absolute value. He battled with "an honest intellectual puzzle".

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His interest in value and distribution originated from his interest in the Corn Laws. *In his opinion the determination of the laws* regulating distribution was the principal problem in political economy. His book "formed a new era in the history of the science". It did utmost to unfold the machanism of society and to perfect the science.

Marshall speaks very highly of his "strong constructive originality", his "power of treading his way without slip through intricate paths to new and expected results", his "aversion to inductions" and his "delight in abstract reasonings". He preferred "broad principles, consonant with general experience, to particular inductions from select groups of facts." But "his knowledge was one-sided : "he understood the merchant, but not the workingman. For the sake of simplicity of argument he often spoke as though he regarded man as a constant quantity devoid of variations." He "attributed to the forces of supply and demand a much more mechanical and regular action than is to be found in real life" and laid down laws with regard to profits and wages that did not really hold even for England in his own time. What was the worst, he did not see how liable to change were habits and institutions.

The contrasts between "the intellectual gifts" of Malthus and Ricardo were, in the words of Keynes, "obvious and delightful" : "In economic discussions Ricardo was the abstract and *a prior* theorist, Malthus, the inductive and intuitive investigator who hated to stay too far from what he could test by reference to the facts and his own intuitions". Ricardo investigated the theory of the *distribution* of the product in conditions of equilibrium ; Malthus is concerned with what determines the *volume* of output day by day in the real world.

Ricardo's theory seems to be an everlasting justification of the *status quo.* But the socialists interpreted his "crude expressions" to their own advantage. They became "the tool-chest of several political parties, the raw material whence many different twists were spun.... A harsh conservatism and a perhaps harsher *laissez-faire* ; a constitutional meliorism and a revolutionary anarchism—these all find their source in Ricardo. McCulloch, Senior and Mill, aware of his limitations, yet not comparing his assumptions with facts, built on his foundations."

James Mill regarded political economy as a science of husbandry or 'state house-keeping'. He desired to give "increased sharpness of outline to the abstractions of the science." He comprehended enquiries into four sets of laws regulating separately production, distribution, exchange and consumption of commodities

Marx was deeply interested in the laws of motion of capitalism. He alone believed that capitalism was but a historical phase. His *Capital* was "the pure milk of Ricardo's doctrine, developed and interpreted by a brilliant disciple, with a fire and venom and skill in practical illustrations which the master himself never equalled."

Senior excluded from his political economy factual analysis and treatment of welfare problems. He conceived of the task of the economist as purely positive and analytical. The economist might not advise even though he was explaining principles which the legislator and the statesman would probably have to take into account. The problems of welfare were solved by reference to diverse other considerations besides economic ones. Decisions were made in practical life by men *qua* statesmen, not *qua* economists. Because political economy was not a perfect science and an economist could comment on the practical issues only on the basis of his own interpretation of the conclusions of the science. In another language, in Senior's opinion there was no room in political economy for the comparative judgement of the moralist. He was opposed to all value judgements. The economist's conclusions did not "authorize him in adding a single syllable of advice". But by this he did not imply that the economist was debarred from presenting practical advice. Practical advice pre-supposed ultimate valuations but these were extra-scientific by nature and beyond the pale of scientific proof. Both Cairnes and Sidgwick concurred with Senior, as we would show presently.

J. S. Mill declared physical sciences to be the proper models for economic theory. He distinguished the laws of value (which were comparable 'to those of physics) from the laws of distribution (which were matters of social policy). He wrote, "There is nothing in the laws of value which remains for the present or any future writer to clear up." He compared political economy to geometry. "Geometry proposes an arbitrary definition of a line. Just in the same manner does political economy presupposes an arbitrary definition of a man", who strives to maximise his utility. Mill adjudged political economy to be "a branch of abstract speculation". According to him, science was concerned with facts, whereas art with precepts. In his letter to Lowe he said, "So far from being a set of maxims and rules to be applied without regard to times, places and circumstances, the function of political economy is to find rules which ought to govern any circumstances with which we have to deal—circumstances which are never the same in any two cases." He was consistently aware of the fact that institutions and customs were not immutable.

In his *Essay on Economics and Society* Mill made it abundantly clear that, for purposes of practical recommendations, the use of the abstract propositions of the science, as its author conceived it, needed to be supplemented by other knowledge. In the world of reality there were many disturbing circumstances which did not fall within the province of political economy. And here the mere political economist, who had studied no science but political economy, if he attempted to apply his science to practice, would fail. Economic knowledge was not self-sufficient, if not backed by practical instincts and common sense. "Except on matters of mere detail, there are perhaps no practical questions, even among those which approach nearest to the character of purely economic questions ; which admit of being decided on economical premises alone." Moreover, "we cannot too carefully endeavour to verify our theory by comparing the results which it would have led us to predict, with the most trustworthy accounts we can obtain of those which have actually been realised."

In his *Autobiography* Mill wrote, "Political economy, in truth, has never pretended to give advice to mankind with no lights but its own ; though people who knew nothing but political economy (and therefore knew that ill) have taken upon themselves to advise, and could only do so by such lights as they had." His own watchword was Goethe's 'manysidedness'. He treated political economy "not as a thing by itself, but as a fragment of a greater whole ; a branch of social philosophy, so interlinked with all the other branches, that its conclusions, even in its own peculiar province, are only true conditionally, subject to interference and counteraction from causes not directed within its scope while to the character of a practical guide it has no pretension, apart from other classes of considerations."

This is why Mill endeavoured to formulate an economics in harmony with political philosophy. His *Principles* were examined with reference to their "applications to social philosophy." He told a friend, "I regard the purely abstract investigation of political economy as of very minor importance compared to the great practical questions which the progress of democracy and the spread of socialist opinion are pressing on."

According to Cairnes, only wealth constituted the subject-matter of political economy, which was a science in the same sense that physics, chemistry and biology were. The aims of political economy were not practical but scientific. "Political economy was a hypothetical science. Its doctrines purported to explicate not what *will* take place, but what *would* or what *tends* to take place." They were drawn "from the world of matter and from that of mind." The end of political economy was "not to attain tangible results, nor to advance any practical plan, but simply to give light, to reveal laws of nature, to tell us what phenomena are found together, what effects will follow from other causes." In relation to politics, political economy was neutral and therefore not bound to any of the "competing social schemes." It was neutral in the same way as the study of mechanics was neutral in relation to alternative methods of building railways or in the same way as chemistry remained neutral in the face of various sanitary projects.

Sidgwick doubted that the practical economic questions, which were presented to the statesman, could be "unhesitatingly decided by abstract reasoning from elementary principles." Their right solution presumed "full and exact knowledge of the facts of a particular case." These facts were not easily ascertainable, with the result that "positive conclusions by any strictly scientific procedure" would not be ascertained. "At the same time, the function of economic theory in relation to such problems is none-the-less important and indispensable ; since the practical conclusions of the most theoretical expert are always reached implicitly or explicitly by some kind of reasoning from some economic principles ; and if the principles or reasoning be unsound, the conclusions can only be right by accident."

It is Ricardianism which the German historical school criticised vehemently and insinuated that abstract laws in economics were both invalid and useless and urged that economists must concentrate on historical research and examine critically the extent to which economic phenomena were govered by natural laws and regards economics as an ethico-psychological discipline. They desired that economics must be used as a tool for social reform. This schoo "took the professor out of the ivory tower and gave him the task of convincing statesmen of the wisdom of their theories". To it economics was a dynamic study and as such was concerned with the observation of economic changes in societies through time. The viewpoints highlighted by it were : relativity, unity of social life and inseparable connections between its elements, anti-rationalism (whereby man was regarded as bundle of motives), evolution, interest in individual correlations and organism. But Eucken considers it wrong to contend that the historical aspect of economic life was unknown to the classical economists and that, consequently, they succumbed to a kind of theoretical absolutism. He shows that this is an invalid criticism. The classicists were "the products of Age of Reason of the seventeenth and eighteenth centuries, an age by no means ignorant of history, although it asked different questions of it than did the nineteenth century." They looked among the variety of actual historical economic systems for the one natural system and found it in the competitive one. The historical school was unable to understand this attitude.

The main defect of the classical view, according to Spann, was "the severance of economics from the indivisible whole of society, and the assumption that there exists an undiluted instinct of 'self-love' or 'self-interest'." Spann has in his mind Comte's theory of consensus which emphasised the inter-dependence of all social phenomena and the importance of induction for testing premises. Comte treated economics as a branch of sociology. Spann repudiates "the isolative and deductive method" of the classicals and disallows "the moral neutrality of economic activity" assumed by them. To be articulated into an organic whole the concept of Economic Man must, on this view, always connote "something very different from acting upon purely subjective and profit-seeking motives" ; it must signify action in unison with the premises of "the extant economic aggregate and participation in the life of an economico-social, and therefore moral, whole".

Eucken alleges that it was the lack of a clear perception of the Great Antimony (i.e., the contrast between scientific experience and everyday experience), which was the main weakness of the classical economists. They failed not simply because of defects in their theoretical system but primarily because their theoretical solutions did not fit the existing historical variety of economic life. "We can appreciate the efforts of the classics to discover a rational natural order by studying the diversity of economic institutions but all the same they did not satisfactorily explain economic life as it actually was." They did not feel the divergence between theory and reality so strongly because they were chiefly concerned to look for the "natural", rational and workable economic system. But Eucken wants it not to be tolerated. However, he recognises that the great and lasting service rendered by the classical political economy was "its discovery of the interdependence of the whole economic process and its development of the method of economic theory." And this was "an essential step towards an understanding of economic reality".

Let us now dispose of another criticism. It is argued by a good many writers that no serious attempt was made by the classicists like Smith, Ricardo and Say to make clear the distinction between the science of political economy and the fact of social organization. Most classicals took the institutions of their time and place for granted and reasoned in terms of those institutions, e.g., private property, free competition, land system, inheritance, etc. They viewed economic laws as inexorable, not to be tampered with or thwarted. They could not understand that economic laws, which were generalisations about tendencies, could be curbed, counterd or redirected.

On the other hand, Robbins in his market-plus-framework interpretation of the classical theory of economic policy, firstly, calls attention to the importance of the institutional organisation of society and economy as a mode additional to the market forces or private participation for the resolution of the basic economic problems; secondly, establishes the createdness of order and of the resolution of freedom and control, and continuity and change, thereby directing attention to a more accurate understanding of the complexites of establishing mutuality of interests and to the role of the system of social control; and thirdly, suggests the subtleties that are involved in reconciling freedom and order.

But Samuels is at pains to prove that the Robbinsian interpretation "considerably understates the scope, complexity, and sophistication of the classical theory of economic policy when examined in the context of the dual basic problems of freedom and control, continuity and change". It "(a) neglects the non-legal forces of social control; (b) fails to specify what is involved in the framework providing function of government, at the very minimum and regardless of whatever else may be said of the framework concept; and (c) inadequately characterises the classical view of the role of law as an instrument or mode of change."

Finally, let us turn to the Ricardian assumption that man is covetous. This was by far too simple an assumption. "Man from the economic point of view is unstable, allotropic: those faculties which subserve unbridled acquisitiveness, if indeed it ever exists, are differently developed in different men; acquisitivess itself operates in more spheres than that of wealth only; the very success of acquisitiveness is apt to destroy for the majority the capacity and the opportunity of free competition."

(Concluded)

Economics Of Farm Size

(A STUDY WITH REFERENCE TO WEST BENGAL)

P. K. Chatterjee*

The present paper is an attempt at empirical examination of the economics of farm size in West Bengal. In this connection, the following aspects are specifically examined, First, actual receipts per acre of various sizes are considered, and the association between size of farm and receipts per acre is analysed. Secondly, the relative intensity of cultivation of small and large farms is studied. Thirdly, profitability of small farms is compared with that of large farms. Fourthly, the hypothesis that the proportion of paid-out cost is lesser in smaller farms is examined. Fifthly, farm business income, which represents the main index of a farming family's economic well-being, is measured for farms of various sizes. Finally, cost of production of Aman paddy (local) (the most popular crop in West Bengal) in small and large farms is examined to determine the relative efficiency of farms of various sizes.

The study is based on the data compiled from the published and unpublished records of Farm Management Study conducted by the Directorate of Agriculture, Government of West Bengal, for the year 1967-68.

The scope of the paper being limited, and the rational of alternative hypotheses with respect to the economics of farm size being already well-known, we proceed directly to examine the data at our disposal.

The sample consists of 240 farms in 30 villages in 6 districts. For gross abnormality or non-avilability of all relevant data, we consider 238 farms. Quite a number of these farms produce high-yielding varieties of Aus (14), Aman (15), Boro Paddy (30), and Wheat (10).

Actual Receipts per Acre

Actual receipts per acre ranges from Rs. 501 to 3,500 for even the smallest farm size group (.01 to 2.50 acres). Out of 12 farms in this group, 7 report actual receipts per acre between Rs. 501 and Rs. 1500, 3 earn more than Rs. 2,000 per acre ; one farm is noted to have received as high as nearly Rs. 3,000 per acre. More than 66 per cent of the farms between 2.51 and 5.00 acres have fetched from Rs. 501 to Rs. 1500 per acre. A little over 64 per cent of the medium sized farms (from 5.01 to 10 acres) also report similar performance. Large farms above 10 acres do not appear to have performed well in comparison with the smaller farms. About 58 p.c. of them have received less than Rs. 1000 per acre and nearly 82 p.c. of them have not secured more than Rs. 1500 per acre. None of them have earned more than Rs. 2,000 per acre while 20 p.c. of the small farms (up to 5 acres) and a little over 12 p.c. of the medium farms (5-10 acres) have been found to have received more than Rs. 2,000 per acres.

---

* Reader in Economics, Kalyani University, W. B.

Table 1

Distribution of Farms by Actual Receipts Per Acre,
West Bengal

Farm size (acres)	Actual receipts per acre (Rs.)								
	0-500	501-1000	1001-1500	1501-2000	2001-2500	2501-3000	3001-3500	Above 3500	Total
·01-2.50	—	5	2	1	3	—	1	—	12
2.51-5.00	—	27	25	12	5	4	—	5	78
5.01-7.50	2	23	22	14	5	1	1	4	72
7.51-10.00	—	14	15	11	1	—	1	1	43
10.01-12.50	1	11	5	3	—	—	—	—	20
12.51-15.00	—	3	2	—	—	—	—	1	6
15.01 and above	—	5	1	1	—	—	—	—	7
Total	3	88	72	42	14	5	3	11	298

A statistical test is conducted to ascertain whether there is any correlation between size of farm and actual receipts per acre. The correlation coefficient computed on the basis of data in table 1 works out to be equal (+) and statistically insignificant.

Intensity of Cultivation

Intensity of cultivation is measured by the amount of expenditure (on all factors) per acre of land.

4 small farms and 3 medium sized farms have been found to to have incurred expenditure of more than Rs. 2000.00 per acre while no large farm has gone up to that level of intensity of land use.

While about 17 p.c. of the small farms spend more than Rs. 1500 per acre, around 7 p.c. of the medium farms and barely 6 p.c. of the large farms have similarly performed.

Table II

Distribution of Farms by Farm Expenses Per Acre, West Bengal

Farm size (acres)	Total expenses per acre (Rs.)						Total
	0-500	501-1000	1001-1500	1501-2000	2001-2500	Above 2500	
.01-2.50	—	4	5	2	1	—	12
2.51-5.00	—	41	25	9	1	2	78
5.01-7.50	5	37	23	4	3	—	72
7.51-10.00	3	27	11	2	—	—	43
10.01-12.50	2	15	3	—	—	—	20
12.51-1500	—	5	—	1	—	—	6
15-01 and above	—	6	—	1	—	—	7
Total	10	135	67	19	5	2	238

While 8 medium and 2 large farms have been found to have spent less than Rs. 500 per acre, none of the small farms spend so little.

The correlation coefficient between farm's expenses per acre and size of farm has been found to be significant and negative (—.238) indicating significant inverse relationship between intensity of land use and size of farm.

Profit

In respect of profit, however, the small farms are in an unenviable position. Of the 37 farms reporting loss, 25 are small, 11 are medium and only 1 is large. As large as nearly 28 p.c. of the small farms have thus been found to have operated under loss. On the other hand, while 11 small farms have reported profit per acre above Rs. 1000, only 1 large farm is so placed. The medium farms are almost on the same footing as the small ones in this regard.

More than 57 p.c. of the farms in all the size groups taken together have earned profit within Rs. 500 per acre. About 45 p.c. of the small farms, 60 p.c. of the medium farms and 75 p.c. of the large farms belong to this category. In respect of profit, medium farms appear to have performed best.

There is no statistically significant correlation between size of farm and profit per acre, the correlation coefficient being equal to (+) .055 only.

Table III

Distribution of Profit of Farms Per Acre, West Bengal

Size of Farm (acres)	Profit per acre (Rs.)						Tot
	Loss up to 500	0-500	501-1000	1000-1500	1501-2000	above 2000	
.01-2.50	5	4	2	1	—	—	12
2.51-5.00	20	37	11	7	1	2	78
5.01-7.50	9	42	12	5	2	2	72
7.51-10.00	2	28	9	2	2	—	43
10,01-12.50	1	15	4	—	—	—	20
12.51-1500	—	4	1	—	1	—	6
Above 15	—	6	1	—	—	—	7
	37	136	40	15	6	4	238

Farm Business Income

About 74 p.c. of the farms of all size groups earn farm business income within Rs. 1000 per acre. About 28 p.c. of the small farms, 20 p.c. of the medium sized farms and around 12 p.c. of large farms have been found to have realized more than Rs. 1000 per acre as farm business income. A very small farm (below 2.50 acres) has also earned farm business income of more than Rs. 1500 per acre. 2 small farms, no medium farm and only one large farm have reported to have earned farm business income of more than Rs. 3000 per acre. This demonstrates the possiblity which small farms are capable of realizing given adequate input supplies. Even farms of 2 acres can adequately support a farming family with the above noted level of performance.

Table IV

Distribution of Farms by Farm Business Income Per Acre, West Bengal

Farm Size (Acres)	Farm business income per acre (Rs.)						
	0-500	501-1000	1001-1500	1501-2000	2001-2500	Above 2500	Total
.01-2.50	5	3	3	1	—	—	12
2.51-5.00	27	30	11	7	1	2	78
5.01-7.50	17	35	12	5	3	—	72
7.51-10.00	15	12	10	1	2	—	43
10.01-12.50	10	7	3	—	—	—	20
12.51-15.00	2	3	—	—	—	1	6
above 15	3	4	—	—	—	—	7
Total	79	97	39	14	6	3	238

Our data do not indicate any statistically significant association between farm business income per acre and size of farm 'r' being equal to (—) .082. Small farms are at least on the same footing as large farms from the point of view of efficiency, if efficiency is measured in terms of the objective of maximizing farm business income per acre.

Paid-out Cost

About the structure of cost, we will make the traditional distinction between 'retained cost' and 'paid-out' cost. Paid-out cost may be regarded as a measure of the linkage between family farms and other parts of the economy.

50 p.c. of the very small farms (below 2.50 acres), about 37 p.c. of the small but slightly larger (2.51-5.00 acres) farms, over 23 p.c. of the medium farms and around only 15 p.c. of the large farms have reported paid-out cost as less than 50 p.c. of the total cost. While 3 small farms and 1 medium farm report retained cost as more than 70 p,c. of the total, no large farm reports paid-out cost as less than 40 p.c. of the total expenses. 21 out of 33 large farms have incurred more than 60 p.c. of their total cost as paid-out cost. The above analysis suggests that the proportion of paid-out cost tends to be smaller for small farms and larger for large farms.

Table V

Distribution of Farms by Proportion of Paid-out Cost,
West Bengal

Farm Size	Paid-out cost as p.c. of total cost							
	20.01-30	30.01-40.00	40.01-50.00	50.01-60.00	60.01-70.00	70.01-80.00	above 80.00	Total
.02-2.50	1	2	3	4	1	1	—	12
2.51-5.00	2	7	20	24	17	8	—	78
5.01-7.50	1	2	15	23	23	7	1	72
7·51-10.00	—	3	6	14	9	11	—	43
10.01-12.50	—	—	4	5	6	5	—	20
12.51-15 00	—	—	—	—	4	2	—	6
Above 15	—	—	1	2	1	3	—	7
Total	4	14	49	72	61	37	1	238

The association between size of farm and the proportion of paid-out cost has been found to be positive and significant (r=.282).

Cost of Production

Cost of production per unit of output being a measure of efficiency, we finally consider the performances of farms of various size groups in respect of the cost of production of the most important crop of West Bengal— Aman Paddy (local). We have excluded from our purview farms which have reported unnatural damage of crops. Of the 238 farms, 205 have reported (normal) Aman paddy production. Cost of production of the crop varies from Rs. 5.00 per maund to more than Rs. 40 per maund. Concentration of farms of all size groups may be noted in the range Rs. 10—Rs. 25 cost per maund. 144 out of 205 farms belong to this categrory. 59 out of 73 small farms, 90 out of 100 medium farms and 29 out of 32 large farms have been able to limit the cost of production of Aman paddy to Rs. 30 or less per maund. 3 small farms, 7 medium farms and 2 large farms have reported cost of production of the crop below Rs. 10/- per maund. From the point of view of cost of production also, we have no basis to suggest that smaller farms are less efficient than larger farms.

Table VI

Distribution of Farms by Cost of Production of Aman Paddy (Local), West Bengal

Farm Size	Cost of production of Aman paddy (local) per md. (Rs.)								
	5.01-10.00	10.01-15.00	15.01-20.00	20.01-25.00	25.01-30.00	30.01-35.00	35.01-40.00	above 40	Totals
.01-2.50	—	3	1	1	1	—	1	—	7
2.51-5.00	3	14	17	8	11	8	2	3	66
5.01-7.00	5	15	20	12	4	1	2	2	61
7.51-10.00	2	7	13	9	3	3	2	—	39
10.01-12.50	1	6	7	4	2	1	—	1	22
12.51-15.00	1	1	1	—	—	—	—	—	3
Above 15	—	2	2	1	1	—	1	—	7
Total	12	48	61	35	22	13	8	6	205

There is no statistically significant correlation between cost of production per unit of output (Aman paddy) and size of farm (r=.085).

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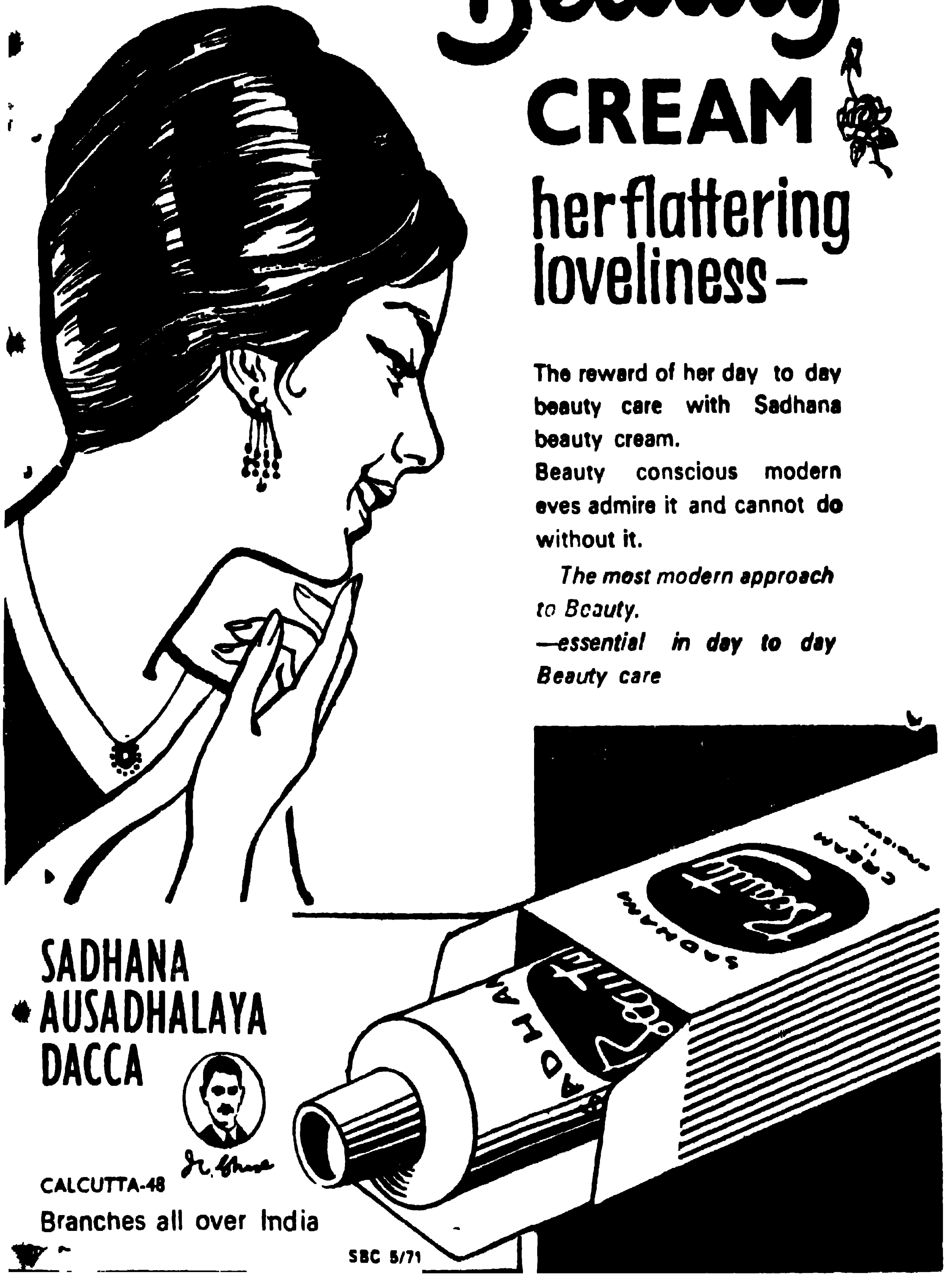

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- The Public Debt Controversy
- The Private Sector in the Nigerian Economy
- Relative Significance of the Parameter of Money Multiplier for the United States Economy, 1963-1974
- Budgeting for Growth

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Contents

Editorial

125 Budgeting for Growth

127 Review

Articles

K. T. Krishnan
129 The Public Debt Controversy

W. O. Uzoaga and F. O. Okafor
135 The Private Sector in the Nigerian Economy

J. Bose
147 A Note on Foreign Capital and Domestic Savings

S. N. Dutt
151 Relative Significance of the Parameters of Money Multiplier For the United States Economy 1963-1974

158 Some Aspects of Integrated Rural Development

ECONOMIC AFFAIRS

Volume 21 April 1976 No. 4

Budgeting for Growth

The Union Finance Minister in his budget speech has made some statements which reveal how he has conceived the economy. He states that his budget's main thrust is towards accelerated growth with stability. This is not a new ambition. His optimism is punctuated by warnings and uncertainties : "Our economy, though more strongly placed than some others, is not entirely immune to these (world inflation, balance of payments deficits) pressures." Further, success is "achieveable only on the basis of strictest possible economic discipline". Still, although as a matter of ideology the public sector has been placed at the 'commanding height', all depends on the "available organisational capacities for physical performance". He rests much confidence on people's participation : The struggle against inflation is a success "because the country willingly accepted the needed economic discipline". Still more "the community must voluntarily agree to sacrifice current consumption". So much so he seems to be happy with people's cooperation that he smilingly says that the success in holding the price line "is living proof of the basic strength and resilience of the Indian economy". He discovers, for good or bad, the "emergence of buyers' market at home". And expresses dismay on the difficulties of some durable goods producing industries for whom he prescribes 'relief' to tide over the shortterm blasts, whose "longterm survival is clearly linked to their ability to diversify their activities". How ; and if they fail ? He provides no answer for these practicabilities. He has also taken the country's economy on theoretical plane as is evident when he holds out that investment should be to the maximum extent "financed through a genuine increase in savings". Where the saving is poor and insufficient, then ? He has no say ; although he has no hesitation in granting 31.6 per cent more investment for plan in 1976-77 over 1975-76. Is there any consumption planning ; inter-sectors, intra-sectors, and final sectors ? He has no say. Possibly because this is a matter for the Planning Commission to consider. What best he can do and has done is to suggest. He suggests "maximum utilisation of locally available resources" ; problem of infra-structure could not visibly touch him. He understands that 8 per cent growth of export "is an essential condition for sustained viability of the country's external payments". This is a gigantic task. As a Finance Minister, he can only provide 'incentives'. He is confident that lower the rates of taxation (for higher income groups) the lower will be the evasion of taxes. This makes him to "experiment" to woo the rich not to evade tax, indulge is black market. In the meantime however the rich will become richer, the rentier class will be more parasitic. Rates relief apart, "in order to remove hardship faced by owners of self-occupied property" henceforth one self-occupied house property shall be valued not at the market value for the purpose of wealth tax but at the value adopted for the year of construction or acquisition of the property or for the year 1971-72, whichever is lower. Rich people have blessed him.

Corporate sector will not find much elements of satisfaction in the budget. The assistances provided for it are more notionals than inducements. The answer to "sharp increase in capital costs" is not the scheme of 'investment allowance' replacing 'depreciation allowance' or transfer of surcharge proceeds to IDBI or giving the banks relief on interest tax levied under the Interest-Tax Act, 1974. The problem is one of prospective yields and the rate of interest. Will the prospective yields be paying ? On the side of 'supply prices' of capital goods, can they be controlled ? The vexed relationship between inventory accumulation and additional investment is also there. Positively, there is the point of excess capacity, addition to capacity and aggregate demand function. There is also the point of labour's productive participation in the face of 'compulsory deposits', 'bonus restriants' and rise in prices of some essential commodities not sufficiently offset by the fall in others.

Budget has its own limitations in remodelling, redirecting or reinducing an economy. Its task is more limited in a planned economy, and especially when the economy has got a jolt from its inflationary move. It is therefore too ambitious to look at the budget itself for any bright hope for the future. All depends on how the investment is planned and fed by savings, consumption is directed, people are reacted, world economy behaves, political events move, etc. At the moment our problem is how to fight out the recession caused by sudden and forced elimination of excess demand, disappearance of the prospects of inflationary profits, accumulation of unused capacity and lopsided growth. At once comes up the question-mark who will take the lead—the accelerator or the multiplier. In either case inflation will raise its head which is a settled problem for a developing country —unless consumption is planned. It seems the Government is not agitated by this problem. It has fixed its mind in prices, as if they form the other variables and are not being formed by them. This 'classic' sense has psychological support. After all our economy has just emerged from a strong inflationary heat !

Review

India—State and Society, A Marxian Approach, Ed. by K. Mathew Kurian, Orient Longman Ltd., Calcutta, 1975, Price Rs. 37.50.

Out of some sort of zeal in bringing together all the pro-Marxist writers at one place for serious discussions on and propagation of Marxian approach to research in social sciences under the concrete conditions prevailing in India the Indian communists(M) organised two All-India Conferences at Trivandrum (1969) and Tambaram (1971). The present volume is the product of those conferences containing some select contributions of the participants.

The volume includes papers on applications of both Marxian methodology and Marxian vulgarism. While the papers of Messrs E. M. S. Namboodiripad, Sayera Habib, Sulabha Brahme and Kumud Pore, and P. C. Joshi fall on the first group, those of Messrs K. Mathew Kurian and Jyotibhusan Bhattacharya may be safely put in the latter. In Introductory Mr. Kurian has frantically laboured to goad the 'neutral intellectuals' to take sides either of Capitalists or Marxists. His writings, besides carrying threats, have left enormous sermons and suggestions. He warns that intellectuals are "prone to opportunistic vacillations" and ironically he found many of them in his own party. He attempts to stir up the 'revolutionary' spirit of the Indian communists suggesting that "if he is a teacher in the university, college or school, he must be an active member of the teachers' movement, participating in teachers' struggles Similarly, engineers, doctors, lawyers, scientists, etc., must work actively in their respective professional organisations and raise the consciousness of their members through mass actions." Inch by inch the Marxists did what he wanted them to do but where are they now and what has the fifty years of communist movement in India gained by now ? Mr. Jyotibhusan Bhattacharya puts all the blames for the failure of the 'revolutionary' mass movement on the fascists-content of Indian democracy. Had there been democracy of their likings then by this time they could have *exploited* democracy to wreck it and replace it by the rule of proletarians, i.e., party, i e., coterie, i.e., person. His concept of fascism is both fantastic and militant. He finds in fascism nothing else but repressions and annihilations which are the logical outcome of the synthesis of 'socialism' based on 'nationalism'. He is true in his contention when this synthesis exceeds limits, where the State is idealized, the real values of the history and culture of a nation are distorted and pul-

UTTARPARA

verised or repressed by the idea of 'obscurantism', and the Superman is identified with the State and his 'will' is the will of the State. Within 'limits' 'national socialism' can work marvellously for both raising the economic level of a country and promoting unity in diversity broadening the way to "one world." The 'nationalism' content of the Soviet Union's socialism underlines it ; China's very same content proves it ; and the dispute about the way to socialism that now burns the communist camps confirms it. When the 'synthesis' exceeds limits it takes the path of 'repressions and annihilations' as has been the rule in each communist country, where too the State is idealised, ruled by party, coterie or superman, and the history and culture are blackened by the notion of 'obscurantism.' All this is 'certainly' needed to keep Him and His party in power and indulge in 'perpetual revolution' to create a *new* history and a 'proletarian' culture. A ruthless example is the Soviet Union itself. The Old-Guard-Communist 'conspiracy' to oust Stalin resulted in wholesale annihilation of original leaders of Russian revolution like Zinoviev and Bukharian (Trotsky too was not spared subsequently) and "In all less than five thousand officers and officials above the rank of Captain were "liquidated." It is claimed that such things are needed in a despotic rule. for drastic and rapid destructions of the old institutions. Asked by Churchill on carrying through the policy of the collective farms Stalin replied it was "a terrible struggle." He continued, "Ten millions. It was fearful. Four years it lasted." They were not all big landlords. Most of them were small peasants to whom there were many bright promises against 'exploitation' ; but "great bulk...were wiped out." At the time of writing Mr. Jyotibhusan Bhattacharya might have forgotten that Fascism succeeded Marxism, Leninism and Stalinism. It took its practical lessons from the magical power of a despotic bureaucracy of a communist country to seal the lips of all dissenting voices, manipulate the national history and culture to exceed the development of the imperialist powers that it can enter into the race of dominating the world.

What is to be told to the Indian communists is to 'pause' ; re-study Marxism, Titoism and Maoism and try to determine, brushing aside the socalled 'scientific' character of an ism, whether Marxism is a 'method' or a 'system' and its counter-involvement in the Law of Motion in the perspective of the century-old communist movement and counter-movement within the movement. Pathetically, blind commitment to Marxism-Leninism stands firmly in their way. But they cannot depend on the 'neutral intellectuals' either !

The Public Debt Controversy

K. T. Krishnan*

It appears that even after many years of heated discussion, economists could not lay the public debt controversy to a peaceful rest. Professor West in a recent article has attempted to prove that "...(a) Individual (private) burdens need to be carefully distinguished from aggregate burdens. In terms of the opportunity cost of tax burdens on individuals, the distinction between internal debt disappears; ..." because, "...Tho argument that external debt is 'different' seems to be that when funds are imported the earlier opportunity cost of roads versus houses is avoided ; expenditure on houses is now not curtailed when road spending is increased. However, one elementary item is overlooked in this argument. The increased expenditure expands the total budget. Consequently new opportunity costs in terms of expected future utility losses due to extra budgeted taxes for serving and repayment are involved ; costs that cannot be postponed. Whether the source of funds is external or internal does not affect this conclusion..." Thus he tried to throw out of the window the famous doctrine by Lerner that there is a sharp and important distinction between an internal and external debt. But what Professor West completely ignored is the fact that when we talk about public debt, we can only talk about an aggregate entity like nation and not an identifiable individual. Any public activity can be viewed in aggregate only. If, on the other hand, we try to look into each individual separately, then all government activities, be it taxation, loan finance or currency printing, involve loss to some individuals and gain to others. Thus, if X is affected by debt finance, certainly Y is affected by tax finance. Therefore, it would be more pertinent to talk about the effect of public debt in terms of economy as a whole and not in terms of individuals who may be identifiable. Further, it can be shown that even from an individual's point of view, there is a clear distinction between internal and external debt. Assuming debt finance comes from private savings, amortization and interest payments

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will increase private savings. In other words, amortization and interest payments will increase the productive capacity of the economy. But if repayment is to a foreign country, it cannot increase the productive capacity of the internal economy. Thus, the net burden for an individual on external debt is the loss of productive capacity to his own economy and the resulting shortage of consumer goods. So the argument that an individual is indifferent between external and internal debt is nothing but a partial analysis which ignores the real issues. But this does not mean that external debt always involves extra burden. If an economy is not able to generate sufficient savings for financing a much needed public project which will confer benefits on its people, the burden that an external debt imposes on the public will be partially or fully offset by the benefits. But in a situation where both internal and external finances are available, resorting to external debt does impose a burden even from an individual's point of view.

II

Now I will try to examine in a little more detail the issues involved in the public debt controversy. Much of the controversy arose because of the misinterpretation of the concepts like 'burden', 'utility', 'government', 'capital' and 'consumption'.

Burden : Burden in economic sense does not mean bearing the heaviness, but the sacrifice which a person makes. Sacrifice, as the term implies, is the pleasure that an individual gives up. Giving up this pleasure can be either voluntary or involuntary. Thus, the burden cannot be measured directly, but can be measured only through sacrifice. But this sacrifice itself is measured in terms of pleasure—a term in strict sense associated with utility. Thus, what we refer to burden is nothing but loss of utility.

Utility : Utility has been defined as the ability of a good or a service to satisfy human wants.[1] But it becomes necessary here to distinguish whether this utility is a mental concept or a physical concept. Any economic activity involves loss or gain of utility. What we ignore many times is whether the loss and gain are strictly physical concepts, or mental concepts or a combination of both. In many cases, physical satisfaction is a prerequisite for mental satisfaction, though at other times, mental satisfaction is independent of physical satisfaction. A hungry man cannot be made happy unless he is physically fed. Here physical satisfaction is a prerequisite for mental satisfaction. On the other hand, if parents bequeath property to heirs, what parents experience is a mental satisfaction. But this mental satisfaction is possible only if they sacrifice physical satisfaction which they might have experienced had the property been used by parents themselves. As we clearly distinguish between physical and mental pain, we can distinguish between physical and mental satisfaction also. Viewed in this sense, savings always involve sacrifice—to be more precise, sacrifice of physical satisfaction. So to talk that loan finance does not involve any sacrifice on the bond purchasers is meaningless. They do sacrifice physical satisfaction. Thus, whether it is tax finance or loan finance, the tax payers or bond purchasers have to sacrifice physical satisfaction.

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[1] The McGraw-Hill Dictionary of Modern Economics: A Hand Book of Terms and Organization, Second Edition, McGraw-Hill, Inc., 1973, pp. 617.

Government : One of the major flaws in the public debt discussion is that we treated government as a real entity. But as we all know, government is only a legal entity and not a real entity. Therefore, even if the government withdraws resources, it cannot be consumed by the government. The government has to ultimately give it back to the economy. What at best it can do is that it can divert resources through its taxation and debt finance activities To talk about burden of any government activity is nothing but absurdity because no internal government activity can either increase or reduce the total resources of the economy. Even in a pure private enterprise system where government activity is zero, under assumptions of full employment, saving and therefore investment always involve resource diversion. If I am confronted with two private industries A and B where I can invest my savings, and if I finally invest in industry B, I am diverting resources to B from A and vice versa. If we argue that diversion of resources by government involves burden, then on the same analogy, we can argue that private activity also involves a burden. Since we do not talk of private debt burden on the aggregate economy, it is not fair to talk of public debt burden also.

The proponents who argue that public debt involves burden in terms of interest payment forget completely that private capital formation also involves the same burden. Whether it is a government bond or a corporate bond, capitalists expect interest payments. In the case of government debt, interest payment may come from taxation while in the case of private debt, it comes from price because interest payment is a cost and hence has to be borne by the consumer. So, interest payment by government through commodity taxation is no different from private interest payment. As long as we do not talk about the burden of interest payment of private debt on the economy as a whole either on this or on the future generation, we cannot talk about the burden of government debt also. To ignore the burden of private activity and talk about the burden of government activity alone is to talk about the difference between two identical circles.

Capital: Though capital has been defined as that factor which is used in the production of other goods including plants and machinery,[2] for our propose, it is necessary to distinguish between real capital and money capital. When government adopts loan or tax finance, what it actually withdraws from the economy is only purchasing power (i.e., money capital) and not resources (i. e., real capital). It can withdraw resources only when it spends the withdrawn money capital But here again, the government is not withdrawing resources but only diverting the resources.

As already seen, this diversion cannot involve any burden to any generation as a whole because what is taken away from one set of individuals is given back to another set of individuals in the same economy. Hence, this is only an inter-group transfer and not an entire-group transfer.

Consumption: The protagonists of public debt burden always argued that public borrowing (assuming that bonds are also purchased out of reduced consumption) and taxation reduced private consumption. It may be fair to state here that what is reduced is not the private consumption but only the consumption of private goods which is compensated by the increase in the consumption of public goods. Since the aggregate level of consumption remains the same, it is again meaningless to talk about burden either on the present generation or on the future generation.

III

Having cleared some of the basic issuses, we can now enter the world of controversy and see how we can also play around. Let us first assume that a particular public project is debt financed. It is clear that when people purchase government bonds, they give up consumption of physical commodities implying sacrifice of physical satisfaction. When the first generation bequeaths bonds to its heirs (second generation) what the first generation obtains is a mental satisfaction. Thus there is a trade-off between physical satisfaction and mental satisfaction for the first generation itself. To arrive at a net positive result we have to assume that the mental satisfaction is greater than the physical satisfaction (a pretty strong assumption indeed) which the first generation might have obtained had they prefered to use the money for consuming commodities themselves. If the former is less than the latter, the net figure has a minus sign implying burden to the first generation itself. Now, in the second generation when bonds are repaid (accepting the transfer-burden approach), the second generation has to bear the burden. Thus, we reach at a paradoxical situation that if the first generation hands over bonds to the second generation, it might end up in sacrifices by both the generations. How ridiculous is to talk of two sacrifices out of a single activity ! This becomes all the more clear and important if we assume that the over life average propensity to consume (OAC) as explained by Modigliani is unity but generation I was forced to hand over bonds to generation II.

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[2] Ibid., pp. 73.

Let us look at the other extreme now. In this case also the government project is loan financed but the only difference here is that the repayment of the loan as well as the interest is again out of government borrowings. If we accept Buchanan's[3] argument, borrowing always makes the lenders move to a higher indifference curve. On this assumption, any government borrowing makes the whole economy move to a higher welfare plane each time the government obtains a loan finance because the lenders move to a higher IC while others remain in their original position.

Earlier, we saw that government borrowing involved two sacrifices. But here we are confronted with a situation where government borrowing instead of involving sacrifices, increases the welfare of the economy at all times. How easy for economists to arrive at two entirely opposing effects out of the same cause !

IV

The basic argument that handling over bonds to heirs does not involve any burden is on the assumption that the marginal utility of money out of which the bonds were purchased is zero to the parents in terms of economic goods. But as we all know, money as it is, has no utility and hence no value. Money has utility for us simply because it has power to purchase goods which have economic utility for us. This exchange utility becomes zero when the goods at its command provide zero utility to the money-holder. Therefore, the argument that marginal utility of money is not zero, emerges from the fact that the marginal utility of goods that can be purchased out of that money is positive for that individual. This being so, when he hands over bonds to his heirs he is passing on utility which involves sacrifice. If I have a penny with me and I willingly give it as alm, my complete willingness means that my marginal utility in terms of economic goods is zero for that penny. If the marginal utility of that penny is not zero, but still I give the alm, my action involves a sacrifice. Bequeaths are nothing but special kind of alms. So Buchanan's argument that purchasing bonds makes an individual move to a higher welfare plane can have only a temporary application. The preference criterion which moved him to a higher IC at the time of purchase of bonds pulls him back when he finally hands over the bonds to his heirs and his exact new location (i.e., whether he comes back to the original IC or to a lower one) depends upon the result as discussed elsewhere in this paper. This is true for all bequeaths. This, however, in no way contradicts my conclusion in part V because what I discuss here is only in terms of the identifiable individual and not an aggregate economy.

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[3] In his book Public Principles of Public Debt, Buchanan states : "If an individual freely chooses to purchase a government bond, he is presumably, moving to a preferred position on his utility surface by so doing", Ch. 4. "Concerning Future Generation", Ibid., pp. 34-35.

V

Conclusion

The burden of public debt has to be viewed from the viewpoint of an aggregate entity like the whole economy and not an identifiable individual. In this respect, an internal debt does not involve any sacrifice (burden) either on this generation or on the future generation.

In the case of external debt, even from an individual's point of view it involves a burden under certain conditions.

The Private Sector in the Nigerian Economy

W. O. Uzoaga[*] and F. O. Okafor

Nigeria has a mixed enterprise economy in which the role of government in the discharge of economic functions is rapidly increasing. As a result, the activities of her private sector is, to a great extent, being influenced by various forms of government participation and/or intervention as well as by the competitive activities of business enterprises wholly owned and controlled by the government. In a free enterprise economy, the performance of the private sector can be inferred from an examination of national indices of economic performance because the function of government, in such a system, is essentially political. The system, of course, accommodates some form of government initiative in economic activities but the ownership and control of the means of production are vested mainly in the private sector. Such an inference could be infested with a wide margin of error if applied to a discussion of the Nigerian private sector.

This paper attempts an evaluation of the performance of the Nigerian private sector in relation to the contributions of the sector to the declared national objectives of the Nigerian government. The analysis is made against the background of the existing froms of government intervention and control. Consequently some of the measures through which the Nigerian government has sought to regulate and influence the private sector will be highlighted and the implications of such measures for the future growth and performance of the sector will be examined. The last part of the paper raises some issues which are expected to generate discussion on the ideal relationship between government and the private sector in Nigeria.

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1 Organised in the legal rather than operational sense. There is no doubt that a number of non-incorporated business existed in the country before contact with European traders.

2 Directory of Incorporated (Registered) Companies in Nigeria, 2nd ed., Vol. III, No. 2.

3 The Lagos Variety Theatre which has since been struck off the list of registered companies.

The Nigerian Private Sector

Private enterprise is fundamental to human society. As essential intermediaries between individuals, in their capacities as suppliers and as consumers of goods and services, private enterprises represent the collective expression of the effort of man to survive. Survival needs impel man, with or without external coercion, to utilize the resources within his environment to provide goods and services for satisfying his natural needs. In primitive societies, such efforts are centred around the individual. As society develops, people co-operate in groups to make the effort more worthwhile and productive. Hence the modern private sector is dominated by the activities of large scale business enterprises.

The Nigerian private sector in its organised form[1], dates back to 1912 when twenty-seven companies were incorporated in the country.[2] All the companies were foreign-owned and most of them were branches of multinational corporations. The first indigenous company was incorporated in 1913.[3] Many of these companies, then as now, were engaged in the import-export trade while a few provided services, mainly banking and shipping services. As a result of its colonial association, the then colonial government in Nigeria engaged only in those economic activities in which voluntary exchange among individuals was difficult or impossible. Such activities were mainly welfare services like the provision of roads, water and public health. With time, the economic role of government was vaguely redefined as "filling the gap" in any sector of the economy where private initiative was either unwilling or unable to venture. The new initiative led to the establishment of government agencies conferred with monopolies over the supply of electricity, telecommunications in addition to rail and air transport.

Since 1970, the public sector in Nigeria has been expanding secularly. Fuelled by petroleum resources, the government has gone a long way to stake out a claim for itself in almost every conceivable sector of economic endeavour.

This resulting increasing bureaucratisation of economic life has made it difficult to perceive only but a thin line that separates the "real" private sector from the "operational" public sector in Nigeria.

This is because no particular sector of economic activity is reserved exclusively for the play of private initiative. The only meaningful distinction lies in the base of ownership and control. Ultimate ownership determines whether a given enterprise is held in trust for the "common weal" or for owner-individuals.

In this regard, the Nigerian private sector could be defined as embracing all enterprises which are predominantly owned and controlled by individual entrepreneurs and non-government corporations. A significant proportion of these enterprises is owned and controlled by foreign interests. The areas of economic activities dominated by private enterprise are agriculture, manufacturing and assembly, distributive trade, building and construction, road transportation and general commercial services.[4]

Indices of Performence

The performance of the Nigerian private sector can be evaluated in terms of the contributions which the sector has made towards the attainment of the country's national objectives. These objectives are clearly stated in the Third National Development Plan 1975-80. They include but are not limited to

(i) Rapid growth in economic development,

(ii) Increased rate of capital formation,

(iii) Reduction in the level of unemployment,

(iv) Increase in per capita income and a more even dristribution of such income.[5]

The evaluation will, however, be incomplete without an assessment of the profit performance of Nigerian private enterprises. Profitability is the ultimate index of the performance of private enterprise. It is an accepted, and perhaps the most meaningful measure for assessing the effectiveness of management in discharging the trust reposed on it by corporate risk-takers.

Given the Nigerian situation, a proper assessment of the achievements of the private sector requires a disaggregation of the various indicators of economic performance into contributions by the private as against the public sector. Such an approach would be easy in some countries where data on sectoral contributions to output, employment, capital investment and profits are readily available. Nigeria has not achieved such an ideal standard. Statistical information is still difficult to get and, where available, figures are usually aggregated to reflect the performance of the entire economic system. Consequently, the analysis will essentially be deductive.

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[4] Federal Republic of Nigeria, Third National Development Plan 1975-80. Vol. 1, p. 351.

[5] The national objectives and priorities of Nigeria are discussed in detail in the Third National Development Plan 1975-80, Ibid p. 29.

Nigeria has recorded a high rate of economic development since her attainment of political independence in 1960. At independence, her level of economic development, measured in all relevant dimensions, was very low. The gross domestic product (GDP), at 1962-63 factor cost, was about N2.493 million and with a population of about 50 million, at the time, per capita income was paltry N45.[6] Before the Nigerian civil war (1967-1970), the economy had picked reasonable momentum and high annual rates of economic growth had started to be recorded. The country went into war, in 1967 on a GDP of about N3,045 milion with per capita income close to N55.[7] By 1970, the GDP had more than doubled the level attained at independence with a phenomenal rise to N4,700 million. Population increase was also substantial but the rise in population notwithstanding, the per capita income improved with a rise to N70.[8] At present, the GDP is roughly N4 billion (1974/75 factor cost). With an estimated population of about 70 million (1963 census), per capita income is about N205.[9]

The overall performance of the economy since independence, as reflected by these changes in the GDP, has been one of unsteady expansion. Before the civil war, the growth rate fluctuated rather widely, 6.7% in 1963/64 and 3.8% in 1964/65. Thereafter, it picked up to 5.7% during the 1965/66 period but slumped again to 4.2% in 1966/67.[10] Since 1970 an annual average growth rate of 8.2% has been maintained. The unusual rate of growth for the period 1971/72 may be due in part, to the full reactivation of economic activities in the Eastern States of the country, following the end of the Nigerian civil war in 1970. However, the rate of economic growth has been reasonably high over the entire period. On the basis of this performance and given the current optimism on the economic future of the country, it has been estimated that a growth rate of 9% per annum (in real terms) can be achieved during the third plan period 1975-1980.[11]

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[6] N1.00=$12.6 approx. (U. S A. dollar).

[7] The figures in the paragraph were derived from the Nigerian Annual Abstract of Statistics 1972, Federal Office of Statistics. Lagos, p. 145.

[8] All the figures quoted in the paragraph are at 1962-63 factor cost.

[9] Third National Development Plan 1975-1980 op. cit. p. 29.

[10] Federal Republic of Nigeria, Second National Development Plan, 1970-74, p. 12.

The rate of growth achieved over the period has mainly been accounted for by high rates of growth recorded by most of the activity areas dominated by the private sector especially mining and quarrying, manufacturing, building and construction, distribution and some areas of transportation. During the fiscal period 1966/67, these activity sectors contributed about N2,810 million to the GDP which represented some 87.5% of the national output. The Federal Government has in a number of policy statements acknowledged and commended the tremendous contribution of the private sector to the rate of economic growth in the country.[12]

Capital Formation

The contribution of the private sector to gross capital formation has been more significant. During the first National Development Plan period (1962 68), the private sector was credited with a total of N1,612 million in gross capital investment or an annual contribution of N268 million to gross capital formation. This represents an average annual growth rate of about 15% in capital investment by the sector.

The importance of the private sector, as an engine of growth especially as regards gross capital investment, was officially recognised by the government in the preparation of the Second Development Plan (1970-1974). The plan envisaged a total gross capital investment of N3,192 million out of which the private sector was to generate N1,632 million or 51% of the planned target. Actual capital formation over the period was N5,300 million of which the private sector contributed N3,100 or 58.4% of actual achievement. The rise in volume of gross capital investment has been accompanied by a significant shift in its composition. Machinery and transport equipment accounted for a rising share of total investment. During the period 1966/67, 39.7% of gross investment was spent on these items. The percentage figure rose to 53.7% for the fiscal year 1971/72.

Investment in machinery has an indirect capacity effect on the manufacturing sub-sector. The shift in national investment therefore underscores a strong trend towards the acquisition of assets which contributes very directly to productive capacity. The colonial pattern of investment in Nigeria de-emphasised the manufacturing sub-sector. As a result, there has been a concerted effort by both the private and the public sector in the country to reverse the trend since the attainment of independence. The effort has been worthwhile and has resulted in a substantial increase in the level of investment in manufacturing which rose to N130 million in 1970 from a little under N84 million in 1963.

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[11] Third National Development Plan 1975-1980, op. cit., p. 29.

[12] Second National Development Plan 1970-75, op. cit., p. 275.

Labour Embloyment

Another important index of the significance of the private sector is the amount of employment it generates. As we mentioned earlier, unemployment is a clear indication that the economy is working below capacity. Unemployment creates social unrest and it has been a priority objective of the Nigerian government to substantially increase the employment rate in the country. It has been estimated (1970) that some 95 per cent of the country's labour force was employed in private sector activities. However a substantial percentage of the labour force is employed in agriculture where there is an incidence of serious unemploymet and disguised unemployment.

Profitability

Thus far, we have concentrated on the social welfare implications of the Nigerian private sector. Private enterprise cannot afford to ignore the impact of its activities on the overall well-being of the nation. However, its performance should not be assessed to the exclusion of its ability to generate profits. Given a competitive market situation, the ability of private enterprise to generate reasonable profits is a *prima facie* evidence of efficiency in its operations. From all indications, private sector enterprises in Nigeria have recorded very high profit figures over the years. High net earnings on capital employed have been recorded by most companies. The average annual net returns for all the companies for the period is 81.96%. Some companies have annual returns of over 100% throughout the period.

One short-coming of the returns figures is that it is biased in favour of large private enterprises that are largely financed and controlled by expatriate interests. But there are strong grounds to believe that the above pattern of profit performance extends to smaller private businesses owned and controlled by Nigerians. Small commercial enterprises have traditionally recorded higher percentage returns than the manufacturing sub-sector in which expatriate interest is predominant. This is due in part to the competitive cost advantage, especially costs, which these smaller enterprises enjoy.

The above record of achievements vindicates the Nigerian private sector. But there are voices of dissent. Private enterprises, especially the expatriate establishments, are increasingly being accused of pursuing their profit goals to the detriment of national interests. Some are accused of such malpractices as deliberate hoarding of scarce commodities to prop up their prices, restrictive employment policies and collusion with government functionaries to undermine unfavourable fiscal and monetary policies that are directed towards the achievement of a more balanced economic growth.

In advanced economies, effective market competition mitigates the abuses of the private sector. But in the absence of effective competition, some private enterprises tend to grow into strong monopolies which could by their actions and inactions constitute a real threat to both the econony and the government.

Government Intervention

In recognition of this fact, the Nigerian government has introduced a number of restraints on the private sector. Government intervention is aimed at achieving a balanced economic growth, price stability and social equity. Such intervention is given operational interpretation in government's fiscal, monetary and income policies. It extends to a wide spectrum of economic activities in the private sector. Government has sought effective control of the "commanding heights" of the economy.

The Nigerian Government now seeks 55% equity participation in such strategic industries like iron a steel, petro-chemicals, petroleum products, fertilizers, etc. The list will of course be increased from time to time. Government's direct investment is represented in other less strategic industries like car assembly, sugar manufacturing, coffee processing, ceramics, mass media, hotel and catering services to mention a few.

In mining, government already enjoys a monopoly in coal mining and through equity participation and regulatory powers it has effective control over existing petroleum mining companies. Such control notwithstanding, government has decided to intervene directly in mining through both the Nigerian Mining Corporation and the Nigerian National Oil Corporation.

Apart from equity participation, government intervention has taken other forms. In banking and insurance business, it has promulgated a number of measures which seek to control entry into and expansion of these financial institutions. The credit and investment policies of banks and insurance companies are under constant control by Federal Government agencies. At persent, the sectoral distribution of commercial bank loans and advances, as well as the composition of their liquid assets have to conform to guidelines set and administered by the Central Bank of Nigeria. Rates of interest chargeable on loans and advance as well as interests payable on bank deposits are subject to control.

Through the Enterprises Promotion Decree 1972, the government seeks to influence the pattern of ownership and control of private sector establishments. Under the Decree, some 22 industrial and commercial ventures are reserved exclusively for Nigerian citizens and associations. Schedule 11 of the Decree sets out a list of 33 activities in which the equity participation of Nigerians must at each point in time be equivalent to or more than 40% of total equity base. Only in large scale private sector activities that require large initial capital investment has government preserved the principle of free entry for non-citizens.[13]

Intervention has also been extended to the price fixing function of a free market. Through the Price Control Board established in 1971, government seeks to arbitrate between the producers (sellers) and consumers in fixing of prices for essential and scarce commodities. Rent is under control in many states of the federation. The Nigerian government uses a number of exchange control measures to regulate the access of the private sector to the country's foreign exchange reserves. Thus, the repatriation of profits and other remittances abroad require official approval. In some cases such remittances are subject to prescribed maximum limits.[14]

We have earlier mentioned that the private sector has, for long, been dominated by foreign interests. Expatriate control gave rise to an unnecessarily large number of expatriate personnel in the sector. Such a situation could not be condoned by a government saddled with unemployment problems. In the past, many Nigerian managers and potential managers claim to have lost positions of authority in the private sector, to their expatriate counterparts. Where they were given the change at all, they complained about denial of responsibilities commensurate with their official designation. As a result of these allegations, government had to intervene to protect the interests of indigenous high level manpower and reduce the earnings leakages. An expatriate Quota Committee was set up to regulate the inflow of expatriate personnel into the country. The committee works on the principle of need and there is little evidence that it has refused entry where any serious case of need has been made.

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[13] Federal Republic of Nigeria, Nigerian Enterprises Promotion Decree 1972, Ministry of Information, Lagos, 1972.

[14] Most of the Foreign Exchange Control measures have progressively been relaxed by the Federal Government of Nigeria especially since 1972 when foreign exchange earnings from crude petroleum started to pile up for the government.

Industrial Incentives

The interventionist policies of the Nigerian government have not been restricted to the exercise of direct or indirect control over private sector economic activities. Some measures, in the form of industrial incentives, have been used to influence the structure and character of private investment. Most of the industrial incentives given so far are embodied in five basic legal instruments :

(i) The Industrial Development (Import Tax Relief) Act of 1957 and 1958 ;

(ii) The Customs Duties (Dumped and Subsidized Goods) Act of 1958 ;

(iii) The Customs (Draw-Back) Regulations of 1958 ; and

(iv) The Income Tax (Amendment) Act of 1959.

In essence, these instruments provide tax relief for private industrial enterprises that are accorded "Pioneer Status" and/or refunds for import duites paid on essential imported raw materials and parts. Since the enactment of these instruments, government has pursued a a policy of consistently eliminating or reducing other constraints on private industrial development activities.

Credit schemes have been established by both the Federal and the State governments to assist small-scale industries through the provision of loans for the purchase of essential machinery and equipment. The Nigerian Investment Centre, a government agency, gives valuable assistance to both foreign and indigenous investors in the formulation and implementation of desirable industrial projects. In addition, both the Federal and the State ministries of industry maintain valuable information from banks which desiring private entrepreneurs can draw at will.

The company profit tax rate has been progressively reduced from 48% to 40% and capital consumption allowances have been streamlined and, in some cases, increased. All these measures aim at encouraging private capital investment by guaranteeing reasonable net rewards to private enterprises.

Assessment of Government Intervention

Given the economic realities of the Nigerian situation, one is hard pressed to find sound arguments against some form of government intervention in the private sector. But such intervention should neither last longer than is necessary to achieve their desired objectives nor should they entrench costly failures in the system.

"Government business" is spreading so wide that definite policy guidelines on the criterion for government participation in private sector activities is required. If the present bureaucratisation of econmic life continues unchecked, private initiative may be blunted. The motivation for government participation in private sector activities should be to give leadership to, rather than, supplant private initiative. The discharge of such leadership role, requires that government enterprises be given freedom to operate commercially, freedom to cut costs and opportunities to make profits.

Legal controls have never been credited with falsifying the natural laws of demand and supply in resources allocation. Appropriations for price control organs including Rent Control Tribunals can therefore not achieve much except increasing public expenditure unless effective measures are taken, at the same time, to restore a balance between the supply and demand of affected commodities. One problem of government direct ownership of business enterprises in Nigeria is that it often entrenches costly failures. As the Daily Times rightly warned before its take-over by the Federal Government :

> The performance of public corporations and other public enterprises has been such that government participation in enterprise should be restricted to strictly essential services which by their nature are better run by government. Otherwise a stage will be reached in which only government will be running virtually all things. This is counter-productive of the letter and sprit of indigenisation.[15]

Bankruptcy is a greate invention of the private enterprise system —an infallible device for putting and end to costly failure. No such

[15] Daily Times, Lagos, July 4, 1972.

device has been conceived of in the political process. Rather, failures of interventionist policies tend to excite larger appropriations and more powers for the affected institution. It is in terms of the above proposition that we can explain continuing appropriations to various government agencies and parasiticals in Nigeria like the Price Control Board, the National Supply Company, the National Electric Power Authority, the National Shipping Line, the Nigerian Airways and a host of state government owned enterprises. The difficulties and inefficiencies of many of these public enterprises are evidenced by the series of tribunals and commissions of enquiries frequently appointed by Federal and state governments to prove the failures and malpractices that have become a regular feature of these establishments.

Industrial incentives can be effective means of ensuring orderly and fast development if properly formulated and administered. At the initial stage of her development, Nigeria adopted a policy which amounted to an across-the-board application of industrial incentives. The major objective was to broaden the industrial base and reduce the country's dependence on imported commodities. Today, the package of incentives has not been comprehensively revised even though the import substitution potentials of the country is fast drying up. By implication, the profits of many enterprises in the very near future will depend on their performance in the export market. Incentives should therefore be consciously manipulated to stimulate specific industrial activities in accordance with the value added maximization principle.

Conclusion

A discussion of the Nigerian private sector starts and ends with one central question—Is the amount of government participation and intervention in private enterprise necessary ? It is our view that rational economic analysis alone cannot provide the necessary answer. Government intervention is tied up with a lot of political and social welfare cosiderations. We believe, however that fears of monopolistic exploitation, especially by expatriate multinational corporations that dominate the Nigerian private sector, appears to underly a vast network of government interventionist regulations in the country. Government has a moral justification in its attempts to break up recognised cases of concentrated economic power. Its obligation extends to the protection of indigenus economic interest against undue suppression by their multinational counterparts.

Government has the additional obligation of protecting the rights and liberties of individuals in their dealings with private enterprises. Consumers have the right to expect some value for their money. They ought to be protected, as consumers, against shoddy goods, against dangerous drugs, against unfair wages. Unpunished fraud is very profitable and the private sector will not hesitate to perpetrate fraud and corruption in its dealings with public officials and the general public unless the law keeps close surveillance over its activities. It is therefore in the interest of the private sector to assume a self-policing role in its dealings with consumers, with works and with government, if government intervention is to be modified.

As regards government's direct participation in the ownership of business enterprises, a strong case can be made for such participation to be extended to some areas where, due to technoiogical reasons, even a modest amount of competition is unattainable. Such areas invite direct government participation. But the areas should be clearly defined. In our opinion, these areas are a few in number. Government should accept a trustee role in its participation in other areas and be ready to hands-off once private indegenous capital is able and willing to buy over such interests from the government.

The Nigerian private sector has made remarkable progress since independence. Both the State and the general public have been the beneficiaries of such progress. Further opportunities for growth abound. But the fate of the private sector will largely be determined by the extent to which government's involvement in private sector activities is encouraged or rendered unnecessary by the ethics and standards enthroned by private business. Nigerian businesses should recognize the urgent need to conduct their affairs along acceptable standards of business ethics. To the extent they do this, to that extent will the private sector in Nigeria survive and thrive.

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A Note on Foreign Capital and Domestic Savings

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Haavelmo[8] has suggested that in a developing economy there may be a significant inverse relation between the net capital flow and domestic savings so that the former may act as a substitute for, rather than as a complement to, the latter. The object of the present note is to study this relationship for Indian economy. Section I deals with a brief description of Haavelmo's hypothesis and the result of its empirical tests by different economists. Section II will be devoted to testing the hypothesis to Indian data. Conclusions will be presented at Section III.

I

Haavelmo's hypothesis is :

$$I(t)=a[y(t)+H(t)]$$

So that $S(t)=I(t)-H(t)$

$$=ay(t)+(a-1)H(t)$$

where, $y(t)$=national income at time t.

$S(t)$=domestic savings at time t.

$H(t)$=net inflow of capital at time t.

a=parameter.

This hypothesis has been empirically tested by different economists using different sets of data, both cross-section and time-series. Rahman[12] made a cross-country analysis using data for 31 less developed countries from the Chenery-Strout study[4], and obtained evidence in support of the hypothesis. The relation he used for the purpose of testing is :

$$\frac{S(t)}{y(t)}=a+b'\frac{H(t)}{y(t)}^{*}, \text{ where } b'=b-1 \qquad \dots (1)$$

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* $I(t)=ay(t)+bH(t)$

so that $S(t)=I(t)-H(t)$

$$=ay(t)-(b-1)H(t)$$

Therefore, $\dfrac{S(t)}{y(t)}=a+b'\dfrac{H(t)}{y(t)}$

Gupta[7] conducted a similar experiment in which he tested the hypothesis for three groups of countries separately. All 50 countries listed in the *Chenery-Strout study* were included, the grouping being done on the basis of per capita income. His findings do not corroborate Haavelmo's suggestion. Instead, evidence in favour of a significant, positive association between $H(t)$ and $S(t)$ is obtained for two groups of countries.

Naseem Ahmed[1] being doubtful about the appropriateness of classifying economies into groups on the basis of income alone, based his classification on both economic and noneconomic factors following Galbraith[5], and obtained 4 groups. Estimating equation (1) by least squares regression method for each group separately, Ahmed obtained negative regression coefficients in all cases, the results being significant in three cases and insignificant in one. He therefore concluded that the results lent support heavily in favour of Haavelmo's hypothesis.

N. H. Leff[10] fitted the equation

$$S(t)=\alpha+\beta y(t-1)+\surd H(t)$$

to Brazilian time-series data for two periods—1940 to 1960 and 1947 to 1960. The value of r came out to be negative for the first period and positive for the second, the F ratio for both equations being significant above the 1% level, Thus, domestic savings and net foreign capital inflow in Brazil appeared to be inversely related during the period 1940-1947, but not during the later period 1947-1960.

Griffin[6] made cross-section studies for groups of underdeveloped countries using United Nations data, and also a time-series study of Columbia during the period 1950-1963. He obtained results suggestive of an inverse relation between domestic savinge and the inflow of capital.

Landau[9] ran regressions of per capital savings on the net outflow of resources (exports-imports) in conjunction with per capita income separately for 20 Latin American countries, using 16-year time-series data for each. His findings support Haavelmo's hypothesis.

II

The relevant data for testing the Haavelmo Hypothesis for Indian economy are available for the period 1948-49 to 1970-71 from two main sources—the CSO[2] [11] and the RBI[18]. But the two sources give data for different periods and so one long series for the entire period is not readily available. Also, the RBI gives net saving figures only while the CSO gives both gross and net saving. Equation (1) has therefore been fitted to data for different periods separately using the least squares method. The results obtained are as follows : -

Source	Period	a	b′	R	T
1. RBI(a)	1950-1951	0.0635	+0.7349	0.557	2.2298
	to 1962-1963		(0.3296)		
2. CSO(a)	1960-1961	0,1226	−0.4787	0.388	1.2652
	to 1970-1971		(0.3783)		
3. CSO(b)	1960-1961	0.1567	−0.2023	0.190	0.5822
	to 1970-1971		(0.3474)		
4. CSO(b)(c)	1948-1949	0.1348	+0.4342	0.265	1.2638
	to 1970-1971		(0.3435)		

(a) Net saving and NGP figures have been used.

(b) Gross saving and GNP figures have been used.

(c) The CSO gives official estimates[2] of savings and net inflow of capital for the period 1960-61 to 1970-71 only. The data for the earlier period are estimates made by individuals[11] associated with the CSO. Although the methods of estimation used in compiling the two series of data mentioned above may not be strictly comparable, the two series have been put together to get a long series for the entire period, due to non-availability of any better, alternative series. This limitation will have to be kept in view when evaluating the reliability of this result.

III

We observe that the results of regressions run on Indian data for periods lying between 1948-1949 and 1970-1971 do not permit any unequivocal conclusion regarding the empirical relationship between domestic savings and the inflow of capital. Different results are obtained for different periods. The positive coefficient that we get for the periond 1950-1951 to 1962-1963 is significant at the 5% level. The long series (1948-1949 to 1970-1971) also yields a positive value of the coefficient b', but the T value is not significant. For the period 1960-1961 to 1970-1971, the coefficient comes out to be negative for both gross and net saving, indicating an inverse relation between $H(t)$ and $S(t)$ but the T values are too low to be significant.

Thus, the results of the above experiment do not confirm the inverse relation between domestic savings and net inflow of capital. Indian savings behaviour, as studied in this exercise, does not lend support to the Haavelmo Hypothesis.*

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* B. Chattopadhyay(3) has tested the Haavelmo hypothesis for selected countries of the ECAFE region. His findings also suggest that the Haavelmo hypothesis does not seem to hold good in the Indian case.

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Relative Significance of the Parameters of Money Multiplier For the United States Economy, 1963-1974

S. N. Dutt*

The problem of money stock determination can be conveniently stated as : $M=mR$, where M is the measure of the money stock, R is some reserve aggregate concept, and m is the appropriate reserve multiplier which describes how M reacts to a change in R. True, if all banks were members of the Federal Reserve System and banks held no excess reserves and the public desired to hold a fixed amount of cash balances, then the reserve multiplier would be nothing but the reciprocal of the reserve requirement. But, since these conditions do not obtain in American economy, the determination of the extent to which deposits will be "created" by a marginal dollar in reserves becomes more complex. The factors that impinge on the multiplier, m, will be (1) the distribution of deposits between member and non-member banks, (2) the distribution of deposits between reserve city and country banks, (3) the allocation of deposits between demand deposits and time deposits, (4) bank's desired ratio of excess reserves to total reserves, (5) the public's desired ratio of currency to demand deposits, (6) the public's desired ratio of time deposits, and (7) the ratio of treasury demand deposits to private demand deposits.

Among the various measures of the reserve aggregate, mention may be made of the monetary base, unborrowed reserves plus currency, total reserves, unborrowed reserves and reserves available to support private demand deposits. Brunner and Meltzer (1964 : 1968) employed the monetary base in their model. The following analysis is based on the reserve concept used by Burger (1971). This concept, the net source base, differs from the Brunner-Meltzer monetary base or extended

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base in that the net source base is not adjusted for changes in the reserve requirements. Though the choice of the measure of the money stock is controversial, the narrowly defined money (currency plus demand deposits) has been chosen as the appropriate money stock since it happens to be the most widely used means of payment. It is recognized that "feedback" effects, resulting from Federal Reserve instigated changes in the net source base which causes other parameters to change via interest rate effects, may nullify the expected effect of a change in the reserve aggregate on the monetary aggregate. However, making the assumption that these feedback effects do not exist does not negate any information that can be gleaned from regression analysis. One must note that application of least squares method to estimate a single equation in the presence of feedback effects may introduce bias and inconsistency in the estimates.

With this caveat in mind, multiple regression analysis was performed on quarterly data from 1963 through 1974. The relationship tested was of the form :

$MS_t=f(MB_t, K_t, t_t, d_t, b_t, r_t)$ where,

MS_t =Money supply (stock)=currency plus demand deposits held by public, billion (current) dollars ;

MB_t =Total bank reserves (R)—sum of discounts and advances to member banks (A)+currency held by public (C_p), billion (current) dollars ;

k_t =Currency ratio=Currency/Demand Deposits=C_p/D_p ;

t_t =Time deposit ratio=Time Deposits/Demand Deposits=T/D_p ;

d_t =Treasury deposit ratio=Treasury Deposits at commercial banks/Demand Deposits=D_t/D_p ;

b_t =Commercial Bank's borrowing ratio=Sum of discounts and advances made to member banks by the Federal Reserve Banks/(Demand Deposits+Time Deposits+Treasury Deposits at commercial banks)=$A/D_p+D_t+T)$;

r_t =Reserve ratio=total bank reserves/(Demand Deposits+Time Deposits+Treasury Deposits at commercial banks)=$R/D_p+D_t+T)$.

Discussion of Variables and Their Expected Signs: Money Supply Equation

The money supply equation, can be expressed as :

$$MS_t=a_0+o_1\ MB_t+a_2k_t+a_3t_t+a_4d_t+a_5b_t+a_6r_t,$$

$$a_2,a_3,a_4,a_6,<o<a_1,a_5.$$

This equation states that money supply is functionally related to monetary base, currency ratio, time deposit ratio, treasury deposit ratio, commercial bank's borrowing ratio and reserve ratio.

The monetary base (MB) has been defined as$=R-A+C_p$...
$\therefore\ MB=r(D_p+D_t+T)-b(D_p+D_t+T)+C_p$, where r is the ratio of bank reserves to commercial bank deposit liabilities. By substitution,

$$\therefore\ \frac{MB}{D_p}=\frac{(D_p+D_t+T)(r-b)+kD_p}{D_p}$$

$$=(r-b)\left(1+\frac{D_t}{D_p}+\frac{T}{D_p}\right)+k$$

$$=(r-b)(1+d+t)+k$$

$$\therefore\ D_p=\left[\frac{1}{(r-b)(1+t+d)+k}\right]MB$$

MS=money supply$=D_p+C_p$

$$\therefore\ \frac{MS}{1+k}=D_p \quad \therefore\ \frac{D_p+C_p}{D_p}=1+k$$

$$\therefore\ MS=\left[\frac{1+k}{(r-b)(1+t+d)+k}\right]MB \qquad (1)$$

or,

$$MS=m.MB \qquad (2)$$

Now, if one assumes that the monetary base increases as a result of Federal Reserve open market purchases, the money stock will expand. If the Federal Reserve decreases the banks' reserve requirements, at any given rate of interest the banks will have more excess reserves and can, therefore, increase deposits. Hence, a positive sign for the coefficient of MB_t is implied for economic theory.

When the public increases its holding of currency outside the bank, it also decreases initially its bank deposits by a corresponding amount. However, the withdrawal of currency from banks also reduces their total reserves and the money supply schedule, therefore, shifts to the left. A rightward shift would result if the public decided to decrease its holdings of currency relative to bank deposits (an increase in k). Therefore, the expected relationship between the currency ratio and money supply is negative.

Differentiating m with respect to k in equation (2), gives :

$$\frac{\partial m}{\partial k}=\frac{(r-b)(1+t+d)+k-(1+k)}{[(r-b)(1+t+d)+k]^2}$$

$$-\frac{(r-b)(1+t+d)-1}{[(r-b)(1+t+d)+k]^2}$$

The numerator in the above fraction can be emprically shown to be less than zero (Burger, p. 35).

$$\therefore \frac{\partial m}{\partial t} < o$$

Thus, the money multiplier and the k ratio are inversely related.

As for the t ratio, partial differentiation yields the following :

$$\frac{\partial m}{\partial t} = \frac{-(1+k)(r-b)}{[(r-b)(1+t+d)+k]^2} < o$$

Since Treasury-owned demand deposits have been excluded from the money supply, an inverse relationship can be posited between the d ratio and m.

From differentiation, one gets :

$$\frac{\partial m}{\partial d} = \frac{-(1+k)(r-b)}{[(r-b)(1+t+d)+k]^2} < o.$$

Hence, a negative sign for d_t is implied by economic theory.

Next, the inducement to member banks to borrow from the Federal Reserve varies in a procyclical manner, borrowing being most attractive to member banks when interest rates are high and Federal Reserve discount rates are increased less than proportionately.

Partial differentiation reveals that :

$$\frac{\partial m}{\partial b} = \frac{(1+k)(1-t+d)}{[(r-b)(1+t+d)+k]^2} > o$$

Therefore, a positive sign for b_t can be posited.

Intuitively, an inverse relationship can be posited between the required reserves held by the commercial banks and their ability to create bank deposits. However, since the actual reserve ratio is the sum of the required reserve ratio, the influence of r on m cannot be determined save by partial differentiation.

$$\frac{\partial m}{\partial r} = \frac{-(1+k)(1+t+d)}{[(r-b)(1+t+d)+k]^2} < o$$

Since money supply is defined to be the product of the reserve aggregate (monetary base) and the money multiplier and since k, t, d, b and r ratios are the parameters in the latter, it is reasonable to regress the current values of money supply on the current values of the monetary base and those of the aforementioned ratios.

EMPIRICAL RESULTS

Ordinary Least Squares Estimates of MS_t Equation

The following estimated equation was obtained for *OLS* for the money supply, MS_t.[1]

$$MS_t = 230.96 + \underset{(56.83)}{2.8225MB_t^{**}} - \underset{(9.229)}{330.55K_t^{**}} - \underset{(7.358)}{33.58t_t}$$

$$- \underset{(2.374)}{51.76d_t^{*}} + \underset{(10.08)}{1571.6b_t^{**}} - \underset{(9.87)}{1250{\cdot}87r_t^{**}} .$$

$R^2 = .99$; $SEE = 1.004$[2] ; and $d.f. = 38$.

The numbers in parentheses are the t-values, where $t = b/s_b$. The coefficients of the variables identified by one or two asterisks are significantly different from zero at the .05 or .01 probability levels respectively.

The above equation reveals that 99 per cent of variation in MS_t over the period of fit was accounted for by the independent variables. As expected, the coefficient of MB_t was positive and was found significant at the one per cent level. The sign of the variables representing currency ratio, k_t, confirmed the hypothesized negative relation and was significant at the one per cent level. The coefficient of the variables viz., t_t, d_t and r_t also were negative as hypothesized and significant at the one per cent level. It appears that narrowly defined money stock is a reliable indicator of the effect of Federal Reserve policy actions and ought to be the monetary aggreate monitored by the policymakers (cf. Meltzer, 1969).

However, unless all independent variables in the MS_t equation are expressed in the same units (MB_t is in billions of dollars and the other variables are ratios), the relative contribution of each variable of the multiplier to the variations in the money supply, MS_t, cannot be assessed. In an attempt, therefore, to make such a comparison feasible, the partial regression coefficients were "standardized" by expressing them in the same units viz., standard deviations (Snedecor and Cochran, 1962 : 416). The standard partial regression coefficient for MB_t, k_t, t_t, d_t, b_t and r_t were estimated to be 1.009, .070, .214, .013, .042 and .244 respectively.

It can be readily noted that MB_t yielded the largest standard partial regression coefficient. This puts the actions of the Federal

---

[1] The estimated money supply equation covered the period, fourth quarter 1963 through fourth quarter 1974.

[2] SEE represents the standard error of the estimate.

Reserve Board as summarized in the monetary base, MB_t, first in the the *list of explanatory variables* that influence the variation in the money stock. One can further note that the second largest standard partial regression coefficient is for r_t, the reserve ratio. This may be interpreted as an evidence that variations in reserves, both required and excess, held by commercial banks do exert an important influence on the behavior of the money stock. The magnitude of the standard partial regression coefficient for the time deposit ratio, t_t, indicates that variations in the growth of money stock are transmitted by variations in time deposits and these variations also influence the behavior of the multiplier and of the money stock (cf. Gramley and Chase, 1965). Finally, next in order of importance are the public's currency ratio, k_t, the commercial bank's borrowing ratio, b_t and the Treasury demand deposit ratio, d_t, that also influence the variation in the money stock.

Conclusions

The foregoing analysis is an attempt to add empirical import to the recent theoretic specifications of the money supply process as developed by Brunner, Meltzer, Burger and others. As for the validity and implications of the asserted relative magnitudes of the parameters, these specifications can be considered only as a first-order approximation owing to the problems associated with the feedback effects mentioned earlier. Specifically, problems arise when it is assumd that all Federal Reserve actions are summarised in the net source base. A change in reserve requirements on member bank demand or time deposits, or a shift of deposits between classes of banks or deposits will influence not only the net source base but the reserve ratio as well. Likewise, Federal Reserve actions such as changes in discount rates and Regulation 0 ceilings may actually induce subsequent alterations in bank's reserve ratio, bank's borrowing ratio, the public's time deposit ratio, and the public's currency ratio as they attempt to restore the desired equilibrium position in their respective portfolios. Second, insofar as the relative magnitudes of the parameters can be considered to be indicative of the "true" relative magnitudes, the conclusions of Gramley-Chase (1965), that the endogenous variables prevent effective short-run Federal Reserve control of the money stock, do not necessarily follow. There is no point describing the changes in the source base as controlled and the other changes as uncontrolled. The more relevant question is the extent to which policymakers have reliable information on some reserve aggregate, the extent to which they can control this reserve aggregate, and the extent to which this reserve aggregate influences a chosen monetary aggregate.

Results reveal that the monetary base MB_t, recorded a more statistically significant coefficient than those for the ratio variables. This evidence indicates that if the Federal Reserve controls the size of changes in the net sources base, it controls by far the larger portion of changes in the money stock. Since over seventy per cent of the sources of MB_t are accounted for by Federal Reserve holdings of government securities which are completely controlled by the Federal Reserve authorities, the monetary authorities do indeed control changes in the source base. Furthermore, these data are available to the trading desk manager on a weekly basis which makes it an excellent indicator of the effects of monetary policy. Recognition of other reliable targets and indicators is also necessary in order to avoid serious errors in monetary policy. As evidenced by the present study the Brunner-Meltzer hypothesis lends itself to empirical investigation which is of utmost importance for policy-making purposes.

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Some Aspects of Integrated Rural Development

One of the valid criticisms of the new technology in agriculture has been that it has tended to favour the more substantial farmers. The institutional aspects of this bias, arising from the domination by vested interests in traditional agencies dispensing agricultural inputs and credit, have been highlighted by a number of field studies in India and elsewhere. Concrete steps for correcting these imbalances and for specifically catering to the needs of the small and less-privileged farmers so that they also benefit, have already been initiated. It will be necessary to strengthen these special arrangements so as to ensure that the modernisation of agriculture now in progress becomes genuinely broad-based. This is also the only way to achieving a sustained increase in production. There is, however, a biological aspect to this question, which tends to be somewhat obscured in the discussions on the subject. This relates to the ability of the farmer, as an individual, to control the crop environment and to maximise the gains from the new seeds and fertilisers. This biological constrains are particularly relevant and important to the large body of small farmers that we have in our country. Along with institutional and economic correctives, therefore, the physical-cum-biological constrains will call for specific remedial measures Some of these are illustratively mentioned below.

An important requirement for the farmer in order that his investments in the new technology yield adequate returns, is that he should be in a position to manage his various production activities (from land preparation to final harvest) with due care and attention. In physical terms, this implies prescription of maxima and minima in the size of the operating farm unit. Land reforms in the conventional sense of breaking up large holdings into smaller farms will not suffice. The term 'land reform' in the context of land scarcity and the exacting requirements of modern technology should imply reforming ownership *and* use, with emphasis on personal cultivation and management, without which there can be no responsibility for ensuring minimum levels of productivity.

Another important requirement is in the timely supply of seeds of proper quality. There are inherent limitations on the capacity of centrally and bureaucratically run organisations to supply suitable seeds to numerous farmers, taking note of variations in agro-climatic conditions and consumer preferences from area to area. There is scope and need for more localised but collective action by the smaller farmers to improve their access to the new technology. While the requirements of nucleus and foundation seeds may have to be met centrally under expert supervision, it is necessary to rely, at the final stage of seed multiplication, on a system of community nurseries at the local level.

Irrigation and water management, including drainage, is yet another area where considerations of scientific resource use will call for cooperative action by farmers The damage caused by the unregulated flow of water, in terms of soil erosion, wastage of nutrients, reduction in crop yields, distortions in soil balance, are well known. A more discipline use in the interest of maximising productivity and for conserving the productive potential for the future become inescapable. The idea of reshaping land and water resources in a whole water-shed has been tried in isolated projects (such as the Mandi project) in the past. Of late, this is being systematically pursued under the Command Areas Development Programme.

Requirements of effective pest surveillance and control underline the same phenomenon. The high-yield environment associated with the new seeds seems to go hand-in-hand with a favourable atmosphere for the spread of plant pests and diseases. The problem is particularly acute in areas characterised by either un-scientific multiple cropping or monoculture of the same genetic strain of crop, over extensive areas.

While the use of water raising crops needs to be improved greatly with regard to the ratio of kgs. of grains produced per litre of water used, we should also make better use of our vast inland water resources in tanks, reservoirs, ponds and streams for rearing fish. The long coastal area also affords opportunities for culturing prawns, mussels, oysters, eels, sea weeds and pearls. It is known that the growth rate of these organisms in tropical seas is high. As the pressure of population on land increases, water will gain further in importance as a medium for growing food. Scientific work already done in the country demonstrates that this system of production, referred to as "acquaculture", has immense potential.

Another aspects that calls for attention is in supply of fuel. Our urban population has of late been voicing complaints in regard to the sudden and steep increases in the prices of petroleum products. Yet the greater predicament faced by the rural population as a result of the rising cost of *their* fuel is rarely appreciated. As per one recent estimate, if the unit cost of energy in 1961 as the base year is taken as 100, the cost in 1975 of electricity was 224, but that of charcoal/wood 348. It is in this context that programmes for planting of trees and for tapping other local sources of energy assume a special urgency. But for the tree planting programme to succeed, we need to raise nurseries on a massive scale, supplemented by a major educational-cum-mobilisation effort. That this is now being actively taken up by the Youth Movement in the country is a welcome development. As regard non-conventional energy sources, the potential for development is undoubtedly great. But actual accomplishment has generally been poor. Popularisation of biogas plants, as a source of energy for man and of nutrients for plants, has made appreciable strides only in a few States so far. This is a simple programme of waste utilisation, with a clear-cut demonstrable economic benefit at low cost, that needs to be pushed vigorously as part of a comprehensive programme of rural development. Further research and development work to improve fermentation technology, reduce unit size and cut capital costs is currently in progress. Work is also in progress on developing other sources of energy in the form of low-cost solar pumps, solar cells, solar water-heaters, wind mills, etc. These (and work connected with improvement in the operational efficiency of the bullock-cart on which a high-powered team of scientists is labouring), are examples of a planned application of science and technology to improve the lot of the common man. This has been one of the most salutary shifts in focus in our policy relating to 'Science for Economic Development'.*

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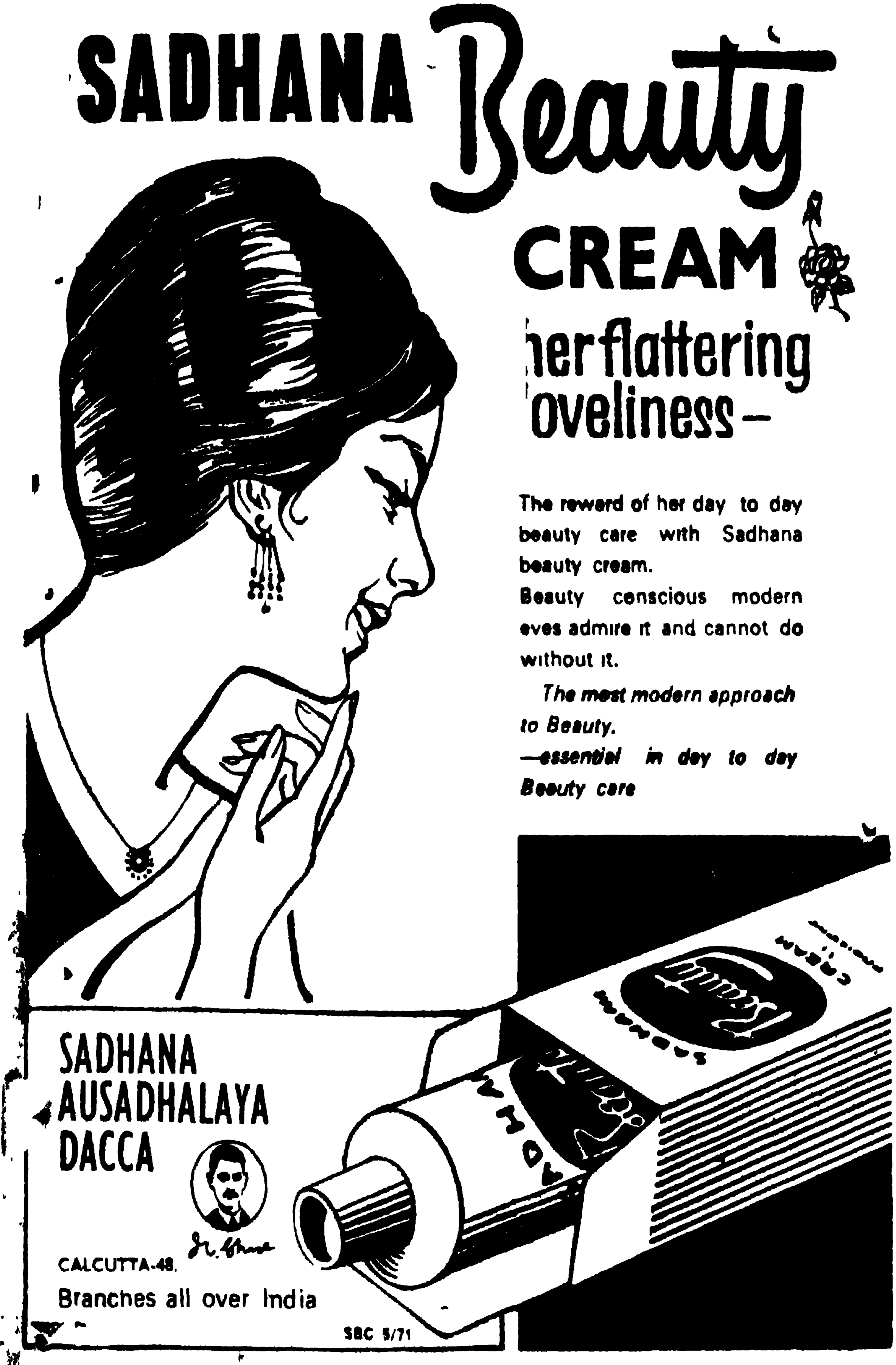
* Excerpts from C. Subramanium's 'Strategy for Integrated Rural Development.'



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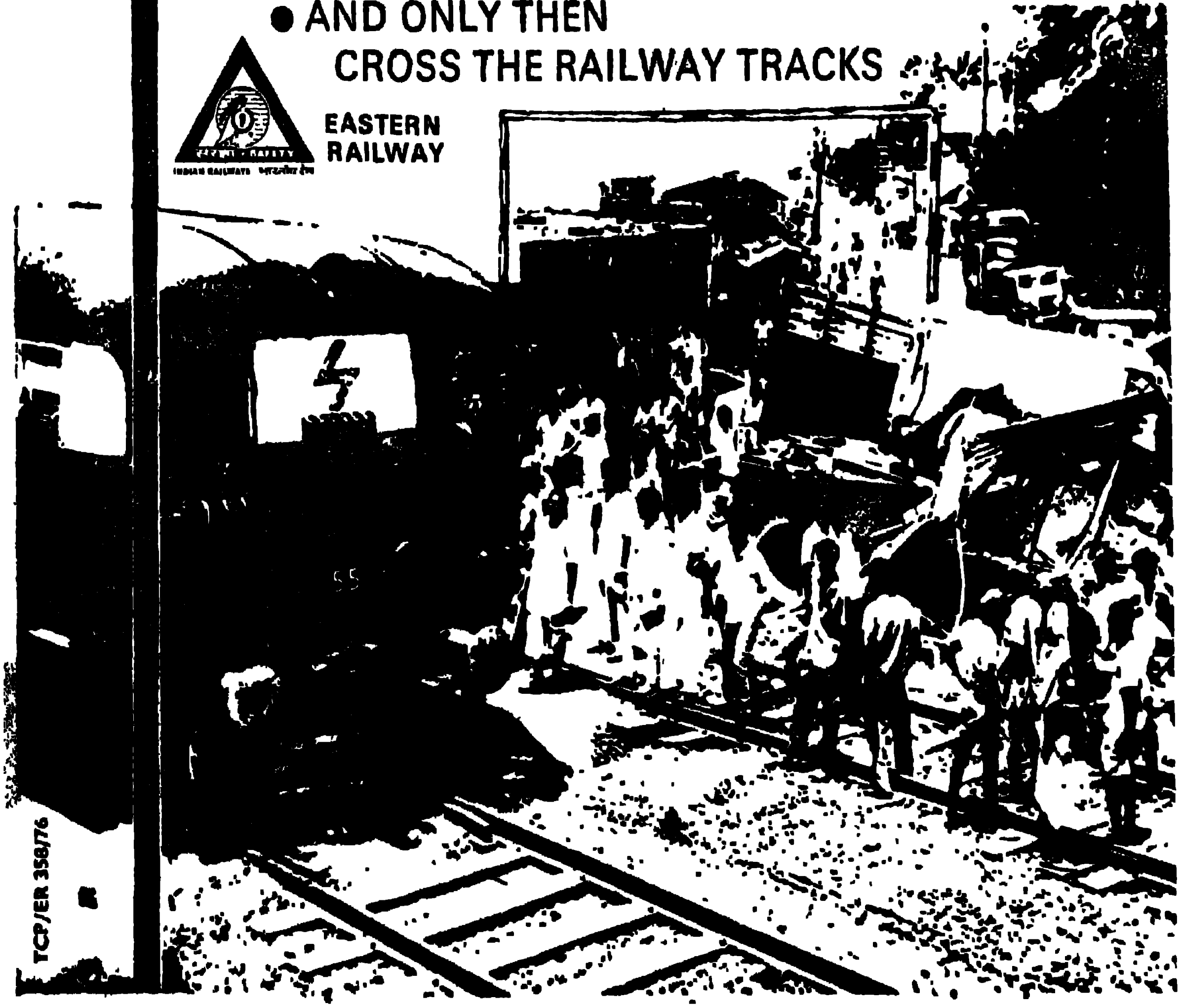

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Contents

Editorial

165 Indian Economy on Suspension

167 Review

Articles

G. S. Lavania, M. M. Bhalerao and M. P. Tiwari
169 Commercial Banks and the Small Farmers

Kalyan Ray
175 Increased Money Supply and Unbalanced Economic Development

R. R. Barthwal
183 The Nature and Behaviour of Cost in Indian Paper Industry, 1949-1964

R. C. Srivastava
193 Planning for Post-Graduate Employment

Venkareddy Chennareddy
196 A Look at a Possible Long-Run Continental and World Population

ECONOMIC AFFAIRS

Volume 21 May 1976 No. 5

Indian Economy on Suspension

In a recent meeting of the Federation of Chambers of Commerce and Industry many interesting economic thoughts were expressed by different speakers. The consensus was that the markets had taken a turn to the consumer's favour and therefore new marketing techniques and readjustments of policies would be an immediate need. One speaker lamented mildly that they had the benefit of the seller's market in the country for far too long. Another having a witty and flexible mind rose to plead for a consumer's market suddenly discounting the merits of a seller's market. Mr. T. A. Pai, Union Minister of Industry, having sensed a bad smell in the utterances of the businesses that smacks the idea of recession promptly replied that he was amused and happy to note that in spite of 'recession' the businesses are hopeful for more investment. Who contradicts whom although not very clear, it is clear that both run into a confusion. Lest the confusion dives into a misunderstanding with the powerful 'private sector' Mr. Pai threw kicks and kisses on it pointing out that the added word 'private' had no relevance now that the private sector mostly used finance provided by the public financial institutions. To him of course the basis of an industry depends on the sources of finance and not on who owns the factors of production and what are the guiding principles of production. In a Gandhian mood he reminded the owners of industries that "you are more in the nature of trustees of public money". And then logically suggested that "you have all the more responsibility to deliver the goods." In spite of this, Emergency had to be called in. Mr. Pai was very much conscious of the strength of the Government and the public sector as is evident from his reported warnings to the businesses that if they failed to implement an industrial licence then they might be disqualified in future to have any licences. If all of them fail and are disqualified, then ? Then the 'public sector' will be fielded in full form to take up the challenge of development without the 'private sector.' But why should it be waiting for this assault from the opponent ? The Minister had no say.

Many more such upshots may be added and discounted. As for instance the Union Commerce Minister said that the import-export gap for the country in 1974-75 was Rs. 1160 crores due largely to high-priced imports of food, oil and fertilizers constituting 69% of total imports, yet, interestingly, it was not reflected to the same extent in the prices of commodities exported by India. This is somewhat miracle. The reasons of the 'miracle' were not however explained. It makes one pause and unmindful when one learns from the Commerce Minister that the Government might import cotton, if cotton prices which had reached the 1974 April level of all-time high did not come down (by the gracious act of the 'private' sector).

To a serious economist all these things make no economic sense. But one thing is understandable that the Government means to say that prices are falling and productions rising, This is a logical impossibility so long as production is income induced and is not accompanied by a rise in productivity leading to a fall in general prices. Precisely, aggregate demand rise depends on aggregate employment rise and or rise in productivity and or distribution of income in favour of non-savers. Even in most favourable conditions the Government cannot be inclined to distribute income in favour of non-savers ; for, in that case, in a given technology, the growth rate is bound to suffer. What remains then is 'autonomous' investment. Autonomous investment must be either induced by additional supply of money or subsidy. In the former case the growth path becomes additionally inflationary and in the latter the implication is a curb on demand and hence a deflationary course, besides the other distortive effects of subsidy on resources. What is more relevant is that in a developing country production of consumer goods falls always behind demand. This output lag results in creating a strong inflationary base. Production takes to inflationary path. If uncontrolled, what is increased is money income and not real income. This is the point where our economy has reached. Curiously in order to create further scarcity in markets there had been further accumulations of productive capacity. Of course bad planning and implementations were also partly responsible for this. Now that the entire process has faced a resistance by way of demand cuts the result is further accumulations of inventories and productive capacity which now call for 'autonomous' investment to create additional demand which has to compete with the old accumulations. The growth is now being trapped and unless much faster rate of growth, breaking the demand constraints in some inflation-contained frame, is possible the trap will continue to puzzle us. To this two alternatives are available : full regimentation of the economy, or introduction of free market mechanism. The former will demand a totalitarian state, the latter is to be fed by imported savings. In each case political ideology is involved. The puzzle reappears !

Review

The Indian Economy—Performance and 'Prospects, Edited by J. C. Sandesara, University of Bombay Publications, Price Rs 96.00.

The volume under review is prepared from the papers and proceedings of the golden jubilee seminar organized by the Economics Department of the Bombay University during March 1972. Thirty-six select papers have entered into this volume covering eight distinct parts : approaches to economic development, income distribution, labour force and employment, monetary and fiscal systems, foreign trade and balance of payments, agriculture, industry, and economic overheads. Thus all the compartments of Indian economy have been covered and reviewed by the different scholars specialized in their respective fields. Professor C. N. Vakil in his inaugural speech advised the participants in the seminar to make concrete suggestions. They did so. There are no econometric or mathematical modelling that generally makes a study abstruse. Besides, the presentations are so simple that even those who have no formal schooling in economics will find each paper interesting and understandable. The notable contributors are P. R. Brahmananda, V. V. Bhatt, Gautam Mathur, Subramanian Swamy, M. Mukherjee, S. B. Rangnekar, J. S. Sharma, B. V. Mehta, and M. Q. Delvi. Although much of the relevance of most of the studies has been lost due to the swift changes of social, political and economic conditions after the studies were completed, the structural limitations that threw out the problems for study and determination of methods and processes of advance have not changed much. In that respect all the studies have yet a great force in future formulations. The volume will create special interests for researchers in any branch of Indian economy.

Theory of International Trade and Money, U. N. Ghosh, S. Chand & Co. (Pvt.) Ltd., New Delhi, Price Rs. 25.00.

The Preface of the book adds, "There is no dearth of theories of or on international trade. But most theorizing is related to the Ricardian "comparative advantage," which however, does refer to a static or stationary frame... The most baffling factor in the movement of the trade has been money or finance. The trade became established only with the use of a common money." Dr. U. N. Ghosh then labours in search of 'common money' (sometimes he confuses common money with 'finance' and 'common currency'). For it is the common money that will obviate all the difficulties of the movement of trade. He seems to be happy that there is a tendency in international finance for replacement of the currency reserves by some issue. "But unfortunately this does not mean any common currency." He does not subscribe to the view that an economy can work with "asset" money only. The world economy must have a 'currency' or 'current' money if it means to work. Dr. Ghosh is however conscious that so far no monetary analysis has been made nor any theory or model of international currency and finance has been constructed to show whether money fulfils the same real functions in every economy. His grudge is that "theoretic diversions have been made to suit the multiplier or growth theory, and the possible effects of policy on balance of payments. The tyranny of established ideology is always great, particularly when it suits national interests of some rich and powerful countries." Thus Dr Ghosh himself points out the obstructions and objections to formulation of a theory or model for a 'common currency' for international trade. All countries are not equally developed nor have they common ideology. This is only one aspect to argue against 'common currency'. The other and more important aspect is that a theory/model based on uniformities by necessities will make such a theory/model an abstract and complex creation without any useful relevance to the national life. Things may take a different turn if and only if the political boundaries are lifted and the world is trained to live under one economic interest. Dr Ghosh's difficulty is that he strongly holds that the ultimate effect of trade should be the growth of world economy and not merely of national economies. To the present reviewer, it is just the opposite. Whatever is to be started is to be started from the standpoint of 'national economy'; the world economy is the construction of national economies and not the reverse. Much of the causes of break down of gold standard or that of IMF led international financial system lie in this overlooked force.

The present work of Dr Ghosh deserves wide reading for its scholarly and analytical content of the theory of international trade.

Commercial Banks and the Small Farmers

G. S. Lavania[1], M. B. Bhalerao[2] and M. P. Tiwari[3]

The small farmers, recently, have attracted considerable attention of the researchers as well as the planners as evidenced from the increasing number of seminars and papers published on their problems. This is quite obvious since numerically the small farmers dominate the rural scene. According to the 1971 census about 62 per cent of the operational holdings in India are with a size below 2 hectares each but they control only 20 per cent of the cultivated area. Aptly is said that this is the land of small farmers but not of small farms. The quarter century after independence has witnessed at least this much progress that we have reached a stage when the small farmer and his problems are being discussed on a large scale although in reality he has gained very little.

The Fourth Plan emphasized the importance of agricultural credit in accelerating production and stressed the need for a multi-agency approach to finance agriculture. Besides the Government and the co-operative agency the commercial banks were also called upon to serve rural India. The post-nationalisation period witnessed a considerable expansion in their agricultural finance activities. This enhanced the need for a continuous assessment of their performance in agriculture, in general and in the small scale farming sector, in particular. With this consideration an attempt is made here to analyse the agricultural finance activities of the commercial banks with special reference to the small farmers.

The data for the study are drawn through investigation into a stratified random sample of 65 farmers who obtained commercial bank loans (bank borrowers) and 65 farmers who did not obtain

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commercial bank loans (non borrowers) during 1971-72 in Ghazipur district of Uttar Pradesh. The sample of borrower farmers was drawn from a total of 217 borrower farmers who were financed by commercial banks in the district.

Distribution of bank loans according to farm size

Distribution of the total loans disbursed by commercial banks to the sample farmers according to farm size is given in Table 1, which clearly shows that the small farmers (with size of farm below 2 hectares each) have obtained disproportionately smaller portion of the total loans advanced by the banks. Thus it can be observed that although 21.53 per cent of the total sample borrowers were small farmers they accounted for hardly 4 per cent of the total bank loans whereas large farmers who were 41.54 per cent of the total number of sample borrowers accounted for a little more than 83 per cent of the total bank loans. This confirms the generally held hypothesis that the bank loans mostly go to the "haves" and the 'have-nots" are deprived of the benefits. Almost same trend is observed even if we consider average bank loan per hectare of cultivated area or gross area sown.

It can be seen that the amount of per hectare loan obtained by large farmers is almost double the amount obtained by small farmers.

Share of various agencies by size of farm

The share of various agencies in the total borrowings per family is presented in Table 2, which shows the dominance of commercial banks in case of bank borrowers and that of co-operatives in case of non-borrowers. Even this table shows a positive relation between the share of commercial banks in the borrowings per family and the size of farm. For non-borrowers the share of co-operatives as well as Govenment increase with the size of farm whereas the share of private agencies decrease with the size of farm. This clearly shows that all the institutional agencies like the commercial banks, co-operatives and the Government are biased towards large farmers. This is quite obvious because of their assets oriented loan policies, rather than emphasis on the real credit-worthiness and the character of the borrower. In contrast, the private agencies because of their dominance in the rural sector and by virtue of their intimate knowledge of the character and credit-worthiness of the borrower, are able to fulfil the credit needs of the small farmers irrespective of the value of their landed security.

Distribution of loans by size of farm

Table 3 gives the distribution of average borrowings per family from different agencies according to size of farm. It can be observed from the table that the average borrowings from the various agencies also indicate unequal distribution with the larger farmers grabbing disproportionately greater share. In this case also the extent of inequality of distribution is greater for institutional agencies than for private agency.

Impact of bank finance on yields of major crops

It is generally held that the benefits of institutional agencies like the Government, the co-operatives and the commercial banks usually go to the "haves" and the "have-nots" remain neglected. One of the reasons advanced by the institutional agencies for neglecting small farmers is that they do not give significant results and as such scarce resources like agricultural credit should be concentrated on potentially more productive farmers. This is not true as is evident from the following analysis, in which the borrower non-borrower differences with regard to yields of major crops are presented.

The yields estimated for major crops by size of farms are given in Table 4. Three important points with regard to the productivity of small farms can be noted from this table. Firstly, it can be observed that for all these seven crops small farmers have given significantly higher yields than the large farmers, thus actually yields and farm size have demonstrated a negative correlation. Secondly, there is a significant difference in the yields of all these crops between bank borrowers and non-borrowers even among small farmers. Thirdly, the difference in the yields between bank borrowers and non-borrowers is much more among small farmers than among large farmers. The borrower non-borrower difference can be attributed to the increased cash availability of the borrowers because of the commercial bank loans. Thus it can be concluded that with the help of commercial bank finance small farmers can give even better performance than the larger farmers. This is quite obvious since credit is one of the major constraints of small farmers.

The statistical significance of the borrower non-borrower differences in the yields of four major crops was tested with the help of statistical 't' test and found to be significant at 1 per cent level even among small farmers. This further confirms our hypothesis statistically about the higher productivity of small farms in general and of bank borrowers farms in particular.

The policy implications of this study are that the commercial banks so far have neglected the small farmers but cannot now afford to neglect them any more. This is in view of the higher productivity on small farms and their better performance with whatever help they have obtained from the commercial banks. For want of broader security base small farmers are unable to obtain medium term loans while commercial banks, on the ground of principles of sound finance, cannot advance medium-term without adequate security base. A way out of this situation is that the commercial banks should increase their short-term loan activity and it should be rationed so as to benefit the small farmers.

Table 1

Distribution of bank loans according to farm size

S. N.	Size of farm (hectares)	Number of borrowers	Total amount	Loan per hectare of Cultivated area	Loan per hectare of Gross area sown
1.	Below 2.00	14	21500.00	1009.38	576.40
		(21.53)	(4.09)	(25.73)	(24.90)
2.	2.00 to 4.00	24	66600.00	900.00	531.18
		(36.93)	(12.68)	(22.93)	(22.94)
3.	4.00 and above	27	437000.00	2014.75	1207.50
		(41.54)	(83.23)	(51.34)	(52.16)
	Total	65	525100.00	3924.12	2315.08
		(100.00)	(100.00)	(100.00)	(100.00)

Note : Figures in parentheses give percentage to total.

Table 2

Borrowings according to sources by size of farm

(Rupees)

S. N.	Size of farms (hectares)	Borrowings per family	Commercial banks	Co-operatives	Government	Private agencies
1.	Below 2.00					
	a) B.B.	2250.00	1539.00	459.00	90.00	162.00
		(100.00)	(68.40)	(20.40)	(4.00)	(7.20)
	b) N.B.	1050.00	—	512.40	130.20	407.40
		(100.00)		(48.80)	(12.40)	(38.80)

2. 2.00 to 4.00					
a) B.B.	3816.66	2774.72	748.06	137.40	156.48
	(100.00)	(72.70)	(19.60)	(3.60)	(4.10)
b) N.B.	1930.70	—	1125.60	208.52	596.58
	(100.00)		(58.30)	(10.80)	(30.90)
3. 4.00 and above					
a) B.B.	21185.18	16185.47	3834.52	466.07	699.12
	(100 00)	(76.40)	(18.10)	(2.20)	(3.30)
b) N.B.	8860.20	—	5918.62	602.49	2339.09
	(100.00)		(66.80)	(6.80)	(26.40)
All farms					
a) B.B.	10693 84	8079.18	1967.87	263.72	383.07
	(100.00)	(75.55)	(18.40)	(2.47)	(3.58)
b) N.B.	4619.41	—	2984.47	355.30	1279.65
	(100.00)		(64.61)	(7.69)	(27.70)

Note : Figures in parentheses give percentage to total borrowings.

Table 3

Distribution of average borrowings per family from different agencies according to size of farm

S.N. Size of farms (hectares)	Borrowings per family	Commercial banks	Co-operatives	Government	Private agencies
1. Below 2.00					
a) B.B.	2250.00	1539.00	459 00	90.00	162.00
	(8.26)	(7.51)	(9.10)	(12.98)	(15.92)
b) N.B.	1050.00	—	512.40	130.20	407.40
	(8.87)		(6.78)	(13.83)	(12 19)
2. 2.00 to 4.00					
a) B·B.	3816.66	2774 72	748.06	137.40	156.48
	(14.01)	(13 54)	(14.84)	(19.81)	15.38)
b) N.B.	1930.70	—	1125.60	208.52	596.58
	(16.30)		(14.90)	(22.15)	(17.85)
3. 4.00 and above					
a) B.B.	21185.18	16185.47	3834 52	466.07	699.12
	(77.73)	(78.95)	(76.06)	(67.21)	(68.70)
b) N.B	8860.20	—	5918.62	602.49	2339.09
	(74.83)		(78.32)	(64.02)	(69.96)
Total					
a) B.B.	27251.84	20499.19	5041.58	693.47	1017.60
	(100.00)	(100 00)	(100.00)	(100.00)	(100.00)
b) B.B.	11840.90	—	7556.62	941.21	3343.07
	(100.00)		(100.00)	(100.00)	(100.00)

Note : Figures in parentheses give percentage to total.

Table 4

Estimates of yields per hectare by size of farms

(Quintals)

S.N.	Crops	Size of farms (hectares) Below 2.00		2.00 to 4.00		4.00 and above		All farms	
		B.B.	N.B.	B.B.	N.B.	B B.	N.B.	B.B.	N.B.
1.	Paddy	32.32	23.78	27.47	18.38	22.50	14.40	24.43	15 86
2.	Maize	23.14	16.94	19.88	14.01	16.78	11.23	18.00	12.18
3.	Wheat	33.29	21.04	28.25	19.20	24.67	17.19	26.00	17.69
4.	Barley	25.01	13.81	22.66	11.28	16.23	9.38	18.43	10.19
5.	Peas	11.25	8.93	10.57	7.00	9.28	6.40	9.75	6.72
6.	Potato	171.88	116.61	153.13	107.28	134.08	82.96	141.36	91.38
7.	Sugarcane	903.00	568.17	817.70	525.75	685.18	447.53	727.64	466.88

Table 5

test for the difference in the means of average yields for borrowers and non-borrowers by size of farms

S.N.	Crops	S.N.	Size of farms (hectares)	D.F.	S.E.	t**
1.	Paddy	1.	Below 2.00	13	1.65	4.82
		2.	2.00 to 4.00	23	1.61	5.57
		3.	4.00 and above	26	1.56	5.10
			All farms	64	0.93	8 64
2.	Maize	1.	Below 2.00	13	1 33	4.48
		2.	2.00 to 4.00	23	1.04	4.80
		3.	4.00 and above	26	0.97	5.10
3.	Wheat	1.	Below 2.00	13	1.62	6.18
		2.	2.00 to 4.00	23	1.31	6.14
		3.	4.00 and above	26	1.26	5.56
			All farms	64	0.78	10.16
4.	Potato	1.	Below 2.00	13	13.75	3.92
		2.	2.00 to 4.00	23	9.37	4.80
		3.	4.00 and above	26	9.78	5.13
			All farms	64	6.10	8.00

** 't' values for all the 4 crops in all the size groups are significant at 1% level.

Increased Money Supply and Unbalanced Economic Development

Kalyan Ray*

Indian planning has from its inception suffered from an overdose of Keynesian thinking. The multiplier effect was almost taken for granted. The quantum of investment was thought to be the main determinant of economic growth. The aim was to secure a sufficiently high investment to achieve the desired break-through. While a sufficiently high investment is definitely necessary for achieving economic growth, a high dose of investment does not necessarily guarantee economic development or growth, beyond increasing the amount of money in the economy.

Increased money supply itself does not generate economic growth, nor does it lead to any increase in productive economic activities. All of us are familiar with the inflationary situation created by increased money supply against a disproportionately small increase in production. This is one of the major ill-effects of a disproportionate growth in money supply in the economy. However, money being synonymous with economic power, this flow of the increased money supply has a direct bearing on the productive forces. Unless money flows towards the productive sectors, there is unlikely to be any increase in productivity.

The increased money supply has generally a tendency to flow towards non-productive sectors, as is clearly brought out by the development of a parallel black-money economy with the growth in money-supply. The true magnitude of this sector is not yet known to us and only surmises can be made. It can, however, be said that growth in money-supply will not generate production, unless money flows towards productive channels.

Reserve Bank of India report gives a figure of Rs. 7140 crores as money supply with the public in 1970-71, of which only Rs. 1565 crores have been accounted for in the financial flow. The flow of bulk of the amount is not accounted for by the Reserve Bank of

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* Indian Administrative Service.

India, as this has not flown through the recognised financial institutions. The table below gives an indication of money supply with the public, along with the flow thereof through recognised financial institutions.

Table 1

(Rs. in crores)

Year	Money supply with the public (Currency with the public and deposit money with the public)	Financial flow reported by the Reserve Bank of India.
1966-97	4,949.96	674.5
1967-68	5,350.07	637
1968-69	5,779.25	927
1969-70	6,386.54	991
1970-71	7,139.97	1,565.3

Compiled from the Reports on Currency and Finance, published by the Reserve Bank of India.

In a scarcity economy, money may be used for gaining control of the commodities and utilising this for manipulating the market forces. This in fact would be an easier business venture than productive activities. The fluctuations in the foodgrains market and the absence of free flow of foodgrains from the centres of production to the markets are due to the blocking of the stocks at different points. In spite of provision of additional irrigation facilities, use of high yielding varieties of crops and fertilisers, provision of various infrastuctural facilities, the agricultural position has not stabilised. The increased inputs in the farm sector have not saved the people from the problems of scarcity. The Green Revolution which promised to stablise the situation petered out after an initial promise and the country had to settle down to a bleak position in the foodgrains front.

The necessary impetus had been provided, but this could not probably be made use of, as the farm sector did not promise spectacular profits and the prices had a tendency to come down. The position was reverse by manipulations of agricultural production and the agricultural stock. This could only be done by groups which stood to gain by arresting the forces of production and consequent advantages by manipulation of the scarce stocks. The groups with sufficient liquid money in their possession could be in a position to have a control of this market forces and ultimately of production. Stocks could easily be manipulated by the use of money power.

Production could be tapered off by offering lower prices to the actual producers and reducing the off-take from them.

Table 2

Year	Index No. of agricultural Production	Index No. of industrial production	Wholesale price index for agricultural production	Wholesale price index for industrial production	Price of agricultural commodities as percentage of industrial commodities
(1)	(2)	(3)	(4)	(5)	(6)
1965-66	96.8	153.8	147.5	130.1	113.4
1969-70	122.5	180.8	198.8	162.1	122.6
1970-71	131.4	186.1	198 9	173.8	114.4
1971-72	130.4	199.4	200.7	186.5	107.6
1972-73	118.5	197.3	234.3	207.2	113.1

From Table 2 it may be seen that although agricultural production has not increased proportionately to industrial production, prices of the agricultural commodities have increased more than proportionately to industrial commodities over the years. In 1973-74, there has been a sharp increase in the prices of agricultural commodities, although foodgrains output during the period increased by more than 10 million tonnes. This is all the more surprising, as the increase in price in 1973-74 has been nearly double that of 1972-73 when there was a decline in foodgrains production by nearly 10 million tonnes from the previous year. This surprising phenomenon clearly goes on to show that the operation of law of supply and demand has not been allowed a free play and that the increased production has not flown freely into the market. If the increased production had been made available in the market, prices were bound to show a decline in 1973-74 after the steep rise in 1972-73.

The near double rise in price in 1973-74 compared to 1972-73, when there was a drought and agricultural production fell by 10 million tonnes, may be attributed to the release of stocks of the previous two years, when the price remained static. There is likely to be a tendency to hold on to the increased production in the expectation of a rise in price. This is probably what happened in 1973-74, when the increased production was not allowed to come into the market. A considerable portion of the production of 1973-74 could be held on due to the storage space made available by the release of stocks of previous years in 1972-73 when there was a rise in prices by 34 points, whereas the rise between 1966-67 and 1971-72 was by 26.7 points.

Disproportionate price rise in the agricultural sector combined with extremely slow increase in production, compared to the industrial sector, indicates that the agricultural prices are being pushed up by allowing insufficient supply to interact against rising demand. Unlike the demand for the products of the industrial sector, the increased demand for foodgrains has to come from the poorer sections of the population. The market for the increased foodgrains production can be created only by lowering the prices with increased production. The demand of the richer sections for foodgrains is unlikely to increase by either lowering of the prices or increase in money supply. In the industrial sector on the other hand, there is always an assured market due to the increases in money supply. Thus a policy of increased production, along with gradual increase in prices will be paying in that sector. In the agricultural sector, on the other hand, the big producers and the merchants with sufficient money-power, stand to gain by slow increase in production with accelerated rise in prices.

Inequitable flow of increased money supply has not been able to stimulate demand in the agricultural sector, particularly of the foodgrains, whereas it has given adequate scope to the big farmers and merchants for controlling the output and the flow of foodgrains into the market. The increased money supply has given adequate economic viability to some not to increase production and in the process to push up prices. The increased liquidity in the economy also enables people to manipulate the flow of supply to the market, by holding on a portion of the stock and exerting pressure on the marginal flow of stock to push up the prices.

For the consumer products of the industrial sector, there is always a ready-made market due to the liquidity position of the consumers of that sector. This is particularly applicable to articles of conspicuous consumption and to things prone to speculation like the real estate and urban consturction. Thus the increased money supply by creating liquidity in favour of the few has encouraged speculation and conspicuous consumption, instead of productivity in the basic sectors and a balanced consumption pattern.

In an economy of scarcity and inflation, the speculative role of increased money supply in the economy is likely to aggravate the situation of scarcity and price rise. There is thus a normal tendency of the increased money supply to flow towards speculative activities, rather than productive activities. This is the main reason why the increased money supply has created serious problems in the economy.

The speculative role of the increased money supply can be partially avoided if it is thinly distributed between the small producers and consumers. However, without adequate institutional backing this is a remote possibility. Huge compensations to the land-owing class for acquisition of land for large scale developmental activities, compensation to the landed classes for giving tenancy rights to the cultivators, have created huge unearned incomes in the economy. The leverage which such unearned income creates in conveying the economic advantages of development has been adequately utilised. The increasing poverty in the country-side amongst the landless and small farmers, which has been posing a major problem to the central as well as various state Governments, clearly points out that the benefits of development have completely eluded the vulnerable sections and only certain sections have been able to get the advantages.

Although the development works are taken up by the Government agencies, the flow of money is controlled through various private agencies in the form of various contracts and sub-contracts. Unless there is adequate institutional support for carrying out the socialistic policies of development, the impact of developmental activities is unlikely to be even. This problem was realised and a limited experiment was made through the crash-scheme for rural employment in which development work was taken up by Government agencies directly. But the experiment was stopped at that and no further steps were taken in that direction.

Continuously huge monetary investment is not an end in itself and may not be sufficient in itself to generate healthy economic growth. It may and has generally generated such forces in the economy which have defeated both growth and distributive justices. Monetary investment is only at the beginning of the flow of money in the economy. The way this money flows in the economy, is at least as much or more important as the quantum thereof. This flow process is vital to the economy, just as the flow of blood is vital for the human system. In the analogy of a living system, money is in the same position in the economy as blood to a living system. The flow is basic to any system and unless we can have a clear idea of the flow of money in the economy, one of the vital zones of the economy will remain hazy. To carry the analogy of a living body a step further, we may say that in a living body the flow-process is already pre-determined, whereas in a developing economy the flow process is not pre-determined and the passage of money can be considerably manipulated during the flow process itself. The size and nature of the economy depend as much on the quantum of money in the economy as also on its proper flow in the system. Once the monetary investment is made, the money flows through a completely uncharted course and ends up in the hands of groups, who are then in complete control of the economy. The pattern of flow of money right from the initial investment stage needs to be changed in a planned economy, to have a meaningful economic planning. Economic planning cannot content itself with merely investment and unfulfilled targets.

Planning and controlling the flow of money can be done only by large-scale institutional reforms. In an economy like ours, where development activities are conducted through various private agencies, the actual flow process of money is controlled by these agencies. In a developing economy, the channels of money-flow are not properly developed and have to be developed simultaneously with the development process. A planned economy must ensure a planned development of the channels of money flow.

Unless the channels of money flow develop according to a planned manner, the flow of money in the economy is likely to be controlled by a few at some intermediate points in the long channel through which money flows in the economy. If a certain section is able to control the money-flow from some intermediate point, the development forces can be controlled by this section and manipulated according to its interest. The control of this section on the economy proves to be crucial in controlling the forces of productivity. By utilising the sepculative role of money, scarce stocks can be manipulated and prices artificially pushed up. The development of a huge black money economy simultaneously with increased Government investment and money supply shows that a considerable portion of this increased money supply has found its way into the hands of a few who have been able to hold the economy to ransom.

The flow of the increased money supply must be channelised towads productive activities to facilitate economic growth. It should also simultaneously stimulate demand for economic necessities instead of luxuries. This would require that a considerable portion of the money supply flows to the lowest economic segment to stimulate their effective demand. The slow growing in the per capita income and consumption of the lower 40-50% of the population shows that very little of the increased flow of money has gone to this sector.

Stimulating demand of the lower economic segments is also a pre-requisite for increasing the production of essential commodities. Unless adequate effective demand from these segments based on sufficiently increased per capita income is generated, requisite incentives for increasing the production of essential commodities will be missing. There must be adequate price-incentives for encouraging production in these sectors. The poor performance of the agricultural sector after the break-through expected in that sector in the wake of the green revolution, clearly showed that price incentives were not there for stimulating further production. It was more profitable to escalate the prices by creating conditions of artificial scarcity.

Table 3

Year (July-June)	Gross production of foodgrains (Million tonnes)	Wholsale price index of foodgrains (Base : 1961-62=100)
1965-66	72.3	154.3
1966-67	74.2	182.9
1967-68	95.1	226.4
1968-69	94.0	201.0
1969-70	99 5	208.0
1970-71	108.4	207.0
1971-72	105.2	237.0
1972-73	95,2	279.0
1973-74	107.5	381.0

Compiled from the Report on Currency and Finance, 1973-74, published by the Reserve Bank of India.

The production figures of foodgrains indicate that there was a sharp jump in foodgrains production between 1966-67 and 1967-68. This can be said to be the height of the green revolution. The increased production figures did not show a continuous upward trend. After registering another substantial rise in 1970-71, the production figures fell considerably for the next two years, before trying to regain the 1970-71 position. Increasing prices between 1965-66 and 1966-67 acted as one of the incentives for a sharp rise in production in 1967-68. In 1968-69, there was a fall in price, due to the availability of part of the increased production of 1967-68, which could not be absorbed by the market that year. In 1969-70, the index of foodgrains prices registered an increase of 7.2 points, although there was an increase in the production of foodgrains. This could have been due to the holding back of the increased production of that year, due to the availability of the increased stores space, planned and constructed during the years of increasing production. Between 1969-70 and 1970-71, the prices continued to be steady with rising production. After that it is a story of accelerated rise in prices, with production falling continuously for two years, till trying to reach the 1970-71 figures in 1973-74.

Thus the green revolution seems to have petered out in the price front, as continuously rising prices with increased production could not be expected in the case of foodgrains. The new demand for the increased production has to come from the poorer sections, whose effective demand is related to lowering of the prices. A policy of increasing production of foodgrains has to be combined with one of lowering the prices, because the new demand would have been generated from descending economic strata. This would have completely upset the price structure in the agricultural sector, as the industrial sector can follow a policy of gradual increase in production with rising prices. Increased demand for the industrial products comes from groups who have been able to hold on to the increased liquidity created in the economy by disproportionate increase in money supply.

Planning has to concern itself with ensuring an even flow of money in the economy. The concept of having increased growth in the first instance and then ensuring equitable distribution of the income, suffers from the basic weakness that it completely ignores the direction of growth. An economy with a high growth rate in the production of luxuries, can simply not be viable for achieving any degree of distributive justice. The analogy of having bigger economic cake for ensuring better distribution, instead of distributing the existing small cake, which does not serve anybody's purpose is not apt.

The entire economic process of investment and increased money supply needs to be charted and analysed, instead of concerning ourselves only with the size of investment and expected growth. The channels through which money is flowing and circulating in the economy needs to be constantly explored for effective economic planning.

The Nature and Behaviour of Cost in Indian Paper Industry, 1949-1964

R. R. Barthwal*

The objective of this paper is to examine the nature and behaviour of the cost of production in Indian paper industry for the period 1949-1964. The emphasis is on measurement of the degree of returns to scale and the effect of changes in input prices on the cost of production by estimating a long-run cost function for the industry. Following conventional approach we will first derive the cost function for the industry and then estimate it using the time series data covering the period 1949-64. The cross-sectional data, available for a few years, will also be used to estimate the cost function. This will give us some insights about the stability of the results derived from the estimated cost functions.

1. Derivation of the Cost-Function

The conventional approach to derive the cost-function is to maximize the output for a given level of cost or to minimize the cost of production for a given level of output. Following this practice, the derivation of the cost-function for the Indian paper industry can be done as follows. Let production function[1] for the industry be expressed as :

$$Y=AX_1^{\alpha_1}.\,X_2^{\alpha_2}.\,X_3^{\alpha_3} \quad X_n^{\alpha_n} \qquad (1.1)$$

Where Y is the output and $X_i (i=1, ...n)$ are inputs, all measured in physical terms per unit of time ; α_i $(i=1, ...n)$ are coefficients defined as the 'input elasticities' of output ; and 'A' is a constant term. Let $P_1, P_2...P_n$ are the prices of inputs X_1, X_2.. and X_n respectively, so the total cost of production for the industry can be expressed as :

$$C=P_1X_1+P_2X_2+P_3X_3+...+P_nX_n \qquad (1.2)$$

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[1] The choice of the Cobb-Douglas production function for the industry is based upon the results of the empirical studies conducted so far which overwhelmingly confirmed it. Ref: Yeon Her Yeh (1968) ; Dadi (1970) ; Sankar (1970) ; Barthwal (1971).

Minimizing C subject to the constraint of the production function (1.1), the equilibrium condition for optimal inputs combination under competitive condition can be expressed as :

$$\frac{P_1X_1}{\alpha_1}=\frac{P_2X_2}{\alpha_2}=\frac{P_3X_3}{\alpha_3}=\ldots=\frac{P_nX_n}{\alpha_n} \tag{1.3}$$

If we solve equations (1.3) and (1.1) for Xi ($i=1, .., n$), we get n derived demand function for inputs as :

$$Xi=KiY^{\frac{1}{r}}\ \frac{P_1^{\alpha_1/r}\ P_2^{\alpha_2/r}\ P_3^{\alpha_3/r}\ldots\ldots P_n^{\alpha_n/r}}{Pi}\ \text{------}\ (i=1,\ldots,n)\,; \tag{1.4}$$

where $Ki=\alpha_i\left[A\alpha_1^{\alpha_1}\ \alpha_2^{\alpha_2}\ \alpha_3^{\alpha_3}\ldots\alpha_n^{\alpha_n}\right]^{-\frac{1}{r}}$

$r=\alpha_1+\alpha_2+\alpha_3+\ldots+\alpha_n$, is a parameter showing the degree of returns to scale.

Substituting equation (1.4) in equation (1.2), we get a cost function for the industry as :

$$C=KY^{\frac{1}{r}}\ P_1^{\alpha_1/r}\ {-}^{\alpha_2/r}\ {-}^{\alpha_3/r}\ldots P_n^{\alpha_n/r} \tag{1.5}$$

Where $K=K_1+K_2+K_3+---+K_n=r\left[A\alpha_1^{\alpha_1}\ \alpha_2^{\alpha_2}\ \alpha_3^{\alpha_3}\ \alpha^{a}\right]^{-\frac{1}{r}}$

If the input prices are constant, equation (1.5) can be reduced to

$$C=QY^{\frac{1}{r}}$$

$$Q=K\left[P_1^{\alpha_1}\ P_2^{\alpha_2}\ P_3^{\alpha_3}\cdots P^{n\,\alpha^{n}}\right]^{\frac{1}{r}} \tag{1.6}$$

The exponent $\frac{1}{r}$ in equations (1.5) and (1.6) shows the output elasticity of the cost. Similarly, the exponents $\frac{\alpha_i}{r}$ in E_q (1.5) are inputs price elasticities of the cost of production. For constant returns to scale, equation (1.6) reduces to a linear equation passing through the origin as

$$C=QY \tag{1.7}$$

From equations (1.5) to (1.7) we can easily derive the average and marginal cost functions, if required.

Equations (1.5) to (1.7) are linear in logarithms, which can be fitted in with the application of the ordinary least-squares procedures.

In pursuit of our objective we will estimate these equations for the Indian pulp and paper industry.

2. The Data :

The cost data series have been taken from the Government publications : 'Reports on Census of Manufacturing Industries' and 'Annual Survey of Industries'. The items covered by the total cost of production are :

(a) Capital cost : This includes the amount of depreciation and imputed interest on total capital employed in production in the industry. Based on the experience of the period under study, a constant rate of interest of 7% has been assumed to compute the amount of the imputed interest.

(b) Labour Cost : This includes wages, salaries and other payments made to all persons employed in the industry.

(c) Fuel and power costs including lubricants.

(d) Material costs at the factory.

(e) Other miscellaneous costs such as inward transportation costs if they are not included in the material costs ; commission to purchasing agents , taxes and duties on purchases ; postage, stationery and printing charges ; non-industrial services purchases in connection with the production, and, work done by other concerns for the industry.

The CMI and ASI reports referred to above give comprehensive data on input-output structure of the industry. For each item of output and input both value and quantity figures are available for different years. The total cost of production and its components like labour cost, material cost, etc., at current prices are thus available directly from the reports for various years. To obtain the cost of production at constant prices we have computed the value of each item of inputs in terms of 1952 prices. Wherever the quantity series were not given, as in the case of miscellaneous costs, or 'other costs', the value series at current prices have been deflated by the general price index to get their deflated counterparts. This kind of adjustment covered almost negligible part of the costs. The sum of the deflated value series in each category of inputs like fuel and power, labour, materials, etc., gave us the total cost of production at constant prices. From current and deflated cost series we have computed the price indices for different categories of inputs. For example, the price index of material consumed by the industry is the ratio of material cost at current prices to the material cost at constant prices, expressed in percentage term. Similar ratios have been computed for other categories of inputs.

The CMI and ASI data are not comparable directly because of the differences in the coverage. (Ref. Naik 1963, Barthwal 1971). Depending upon the objective of the study some coverage corrections are generally needed. In the context of estimating a production or cost function, however, no such corrections are needed because to fit the relationship we need quantity of output produced and the value and quantity of input consumed in production. Projecting such data for 100% coverage is not necessary. Our analysis of the cost function presented in this paper is therefore based on the reported CMI-ASI data rather than corrected version of it.

The total cost of production and output series for the industry are given in Table 1. Table 2 contains the price indices for different components of cost excluding miscellaneous one for which the general price index is taken as a suitable index for obvious reasons.

3. Empirical Results :

(a) Variables : TC_1 : Total cost (value : Rs. lakhs at current prices)

$\bar{TC}_1$: Total cost (index of values 1952=100)

TC_2 : and $\bar{TC}_2$ are deflated total cost series in value and index form respectively.

Y : Output (qty. lakhs tons).

$\bar{Y}$: Index of output (1952=100).

P_K, P_L, F_F and P_M are price indices (1952=100) for capital, labour, fuel, and materials respectively.

P_G : General Price Index, 1952=100.

(b) Regression Fits :—

(Note : 'In' indicates natural logarithmic transformation of the series, and figures in brackets are '*t*' values)

$$\text{In } \bar{TC}_1 = -5{,}53596 + \underset{(6.75)}{0.89956 \text{ In } (\bar{Y})} - \underset{(-0.16)}{0.04597 \text{ In } (P_k)}$$

$$+ \underset{(0.51)}{0.12363 \text{ In } (P_L)} + \underset{(0.63)}{0.27491 \text{ In } (P_F)}$$

$$+0.65488 \text{ In } (P_M)+0.30228 \text{ In } (P_G)$$

$$(2.73) \qquad (1.71)$$

$$R=0.999 \text{ ; } F=843.54 \text{ ; } \text{'d'}=2.30 \qquad (3.1)$$

Statistically this is a significant estimate of the cost function as shown by the *R* and *F* ratios. At 1% level of significance only the regression coefficient of output ($\overline{Y}$) is significant, and at 5% level, the coefficient of the material price index also becomes significant. This equation shows that total cost of production in the industry during the period under study was insensitive to changes in prices of capital, labour, fuel and power and miscellaneous inputs and sensitive to changes in material prices. This may be on account of the fact that the share of each, capital, labour, fuel and power and miscellaneous costs, in the total cost of production of the industry has been too low as compared to that of material cost. From the facts given in Table 3, in fact, we find this is true. The share of material cost in the industry during the period under study varied between 51 and 59% and that of labour 14 and 20% capital 11 and 07%, fuel and power 9 and 12% and miscellaneous costs 0.2 and 5%. The effect of price variation in the smaller components of cost like labour, capital, fuel and power, and miscellaneous one, was individually too low in bringing out any appreciable change on the total cost of production. However, this interpretation is to be taken cautiously since the price indices with exception of P_k display almost common trend which might have caused multi-collinearity bias in the estimates of the regression coefficients. To reduce the extent of multicollinearity, we have dropped the two price variables from a fresh estimate of the cost function shown below. The price series (P_k) for capital cost is dropped in view of its relative constancy over the period. (Ref : Table 2). Similarly, the general price index (P_G) is dropped since it was taken into account for the variations in a very small proportion of the total loss of production (0.2 to 5%) which we can overlook.

$$\text{In } (\overline{TC}_1)=-5.87739+0.78720 \text{ In } (\overline{Y})+0.27491 \text{ In } (P_L)$$

$$(6.5) \qquad (1.27)$$

$$+0.6096 \text{ In } (P_F)+0.61768 \text{ In } (P_M)$$

$$(1.64) \qquad (2.73)$$

$$R=0.998 \text{ ; } F=1156.7 \text{ : } d=2.47 \qquad (3.2)$$

As can be seen, there is no marked difference in the statistical significance of the regression coefficients of this equation as compared to those in equation 3.1. The fuel price index (P_F) of course turns out to be significant at 5% level in this equation.

In the next round of estimation we have dropped the labour and fuel price indices (P_L and P_P) from the list of explanatory variables to fit the cost function for the industry. The revised estimates of the cost function with absolute as well as index data series are as follows :

$$\text{In } (TC_1) = 3.22378 + 1.01807 \text{ In } (Y) + 0.8197 \text{ In } (P_M)$$

$$(19.88) \qquad (4.51)$$

$$R = 0.998 \text{ ; } F = 1724.8 \text{ ; } \text{'d'} = 1.47 \qquad (3.3)$$

$$\text{In } (\bar{T}C_1) = -4.22867 + 1.02243 \text{ in } (\bar{Y}) + 0.90722 \text{ In } (P_M)$$

$$(20.69) \qquad (4.79)$$

$$R = 0.998 \text{ ; } F = 1951,2, \text{ 'd'} = 1.65 \qquad (3.4)$$

Both these fits are statistically significant and free from the autocorrelation at 5% level of significance. The output elasticity of cost (i.e., $^1/_r$) is unitary as shown by the regression coefficients of In (Y) and In ($\bar{Y}$). This gives us the first empirical evidence in favour of the constant returns to scale ($r=1$) prevailing in the industry during the period 1949-1964. Similar evidence we got from the empirical estimates of the production function for the industry in a different study. (Ref: Barthwal, 1971). The material price elasticity of the cost is also significant in both the fits. It may be distorted upward since the material price index (P_M) is assumed to take into account the effect of fluctuations in the prices of other inputs on the total cost of production in the industry.

The pulp and paper industry is one of the major industries in the country. It has a long history of growth behind its present level of development. The industry achieved almost full maturity by 1947 when the protection granted it was withdrawn. A mature or fully developed industry under competitive conditions will show constant returns to scale. Our result of constant returns to scale confirms this contention. The result of constant returns to scale may also be interpreted as a reflection of the average tendency of returns in the industry. This is because in a growing industry like paper new firms entering the industry may show up increasing returns to scale in the initial stage but all firms together show the constant returns to scale. The result of high sensitivity of the cost of production to changes in material prices has straight forward policy implication, i.e., if the prices of paper and paper board are to be controlled in the interest of the consumers, it should be supported through a control on raw material prices to maintain fair rate of return in the industry otherwise the growth of the industry will be slowed down.

The cost functions described above are non-linear (i.e., logarithmic) in shape because of the effect of changes in the prices on the cost of production. If this effect is removed, the cost function would be linear under the condition of constant returns to scale. Regressing the deflated cost of production on the output of the industry we, in fact, got the linear fits as shown below :

$$TC_2 = -30.85773 + 1084.80218\ (Y)$$
$$(57.16)$$
$$R=0.998,\ F=3267.16\ ;\ d=2.016 \qquad (3.5\ a)$$

$$\text{In}\ (TC_3) = 6.98642 + 0.99255\ \text{In}\ (Y)$$
$$(55.36)$$
$$R=0.998\ ;\ F=3064.28,\ d=1.56 \qquad (3.5\ b)$$

These two regression fits are not comparable directly since they have different dependent variables. However, both of them are supporting the hypothesis of constant returns to scale prevailing in the industry during the period under study. This is evident from the fact that the regression coefficient of In (Y) in the log fit is not significantly different from one which is the condition for the constant returns to scale. With this condition as we have seen earlier in section 1, the cost function becomes linear in shape. Among the two fits the first one, i.e., 3.5(a) which is a linear relationship, is therefore our choice of the acceptable cost function for the Indian paper industry.

(c) Analysis of Residuals

Equations (3.3) and (3.5a) provide the best estimates of the cost function for the Indian paper industry. We have used absolute cost and output series in estimating these equations. For the sake of convenience we write them again as :

$$\text{In}\ (TC_1) = 3.22876 + 1.01807\ \text{In}\ (Y) + 0.81897\ \text{In}\ (P_M)$$
$$(19.88) \qquad (4.51)$$
$$R=0.998\ ;\ F=1724.8,\ d=1.47 \qquad (3.3)$$

$$TC_2 = -30.85773 + 1084.80218\ (Y)$$
$$(57.16)$$
$$R=0.998\ :\ F=3267.16\ ;\ \text{'d'}=2.016 \qquad (3.5\ a)$$

From these equations we can easily draw the average and marginal cost functions for the industry, if required. The regression residuals for the total cost of production obtained from these equations are given in Table 4. The residuals vary in size from 0 to 7.3% of actual costs. They are below 3% for most of the years in the case of figures at constant prices. Cost functions usually give higher residuals because cost of production is affected by several socio-economic, political and technical factors, some of which cannot be quantified and included in the cost-functions. (See Johnston, 1960, p. 29). Barring a few years, the residuals are, in general, very small in size. The randomness of the residuals is however questionable since in the middle range of the series in both the cases we get a cluster of negative residuals which implies over-estimation of the cost of production by the regression equations. For the lower and upper ranges of the series we find reverse pattern, i.e., under-estimation of the cost of production. This kind of cyclical pattern in the residuals of the cost is not causing autocorrelation error as evident through the Durbin Watson test for the equations ('d'>du for 16 observation and one independent variables at 5% level of significance). Relying on this test and seeing the randomness in the size of the residuals (not direction) the cost functions expressed by the equations. (3.3) and (3.5a) are, therefore, reasonably acceptable fits for the Indian paper industry. They have explained more than 99% of variation in the actual cost of production of the industry for the period 1949-1964.

(d) 'U'—Shaped Cost Curves :

In addition to the cost functions described above we have fitted some more of them assuming quadratic relationship between cost and output. Here, the co-efficients of the higher order output variables were found statistically insignificant leading thereby to the rejection of the U-shaped cost functions for the industry. For example, in the following equation we find almost insignificant coefficient for Y^2 and no improvement in the value of *R* which we got in the simple linear fit between *TC* and *Y* established earlier.

$$TC_2 = -419.65546 + \underset{(6.33)}{1212.61377\,Y} + \underset{(1.08)}{39.54596\,Y^2}$$

$$R = 0.907\ ;\ F = 721.06 \qquad (3.7)$$

4. Estimates of the cost-functions with Cross-Sectional Data :

To supplement the analysis presented in the above sections we have estimated some more cost functions using inter-size cross-sectional data. This was necessitated since paper technologists and entrepreneurs associated with the industry, in general, claim increasing returns to scale, particularly at firm level. (Ref. UN/FAC 1962, Vol. II, pp. 533-35 ; Westo-by 1963, p. 13). This contention is not supported by our findings for the Indian paper industry. Using the available data on size distribution of the firms as given in the reports on Census of Manufacturing Industries, we verified our findings on cost-function for the industry. The estimated cost functions with such data for the years 1956 and 1957 are given below. We could not extend this analysis for other years because of nonavailability of the data.

Variables : TC : TOTAL COST (Rs. lakhs) at Current Prices.
Y : Total Value of Output (Rs. Lakh) at current prices.

Since both *TC* and *Y* represent cross-sectional data, the question of their deflation does not arise)

1955 $TC=1.15250+0.76794\,(Y)$; 0.999 2649.99 (8.a)
(51.48)

$\mathrm{In}\,(TC)=0.25359+0.91359\,\mathrm{In}\,(Y)$; 0.998 2258.93 (8.b)
(47.53)

1956 $TC=1.28708+0.75587\,(Y)$; 0.999 9028.45 (9.a)
(95.02)

$\mathrm{In}\,(TC)=0.01932+0.95381\,\mathrm{In}\,(Y)$: 0.998 1378.15 (9.b)
(37.12)

1957 $TC=1.08215+0.76385\,(Y)$; 0.999 12203.0 (10.a)
(110.46)

$\mathrm{In}\,(TC)=0.22181+0.92477\,\mathrm{In}\,(Y)$; 0.999 4539.0 (10.b)
(67.37)

In this set of equations the linear fits and their logarithmic counterparts are not comparable because of differences in the dependent variable. At the face value both the types of fits are acceptable as seen from their *R* and *F* ratios. The linear fits from their very nature support the existence of the constant returns to scale in the industry for the years under study, but the log fits negate it since they are showing increasing returns to scale of the order of 1.09, 1.05 and 1.08 for the year 1955, 1956 and 1957 respectively. (The output elasticity of cost $({}^{1}/_{r})$, i.e., the regression coefficient for in In (Y), is significantly different from unity at 5% level in the log fits. Its inverse gives us the constant returns to scale, i e., $r>$i,o). If we accept the long fits our finding of the constant returns to scale estimated from the time series data for the industry is contradicted by the cross-section data. This is not a surprising result. In cross-section analysis the forces like market conditions, prices, population of the firms, state of technology, capacity utilization, etc., which influence the decision making process of firms, are more or less common, so the cost-output plans are supposed to be fully adjusted. In time-series analysis all such factors may vary from year to year. Their presence in the form of disguised short-run reactions may exert independent influence on the cost output plans of the firms resulting in disequilibrium in its adjustment fully adjusted response reflected by the cross-sectional analysis will show lower cost of production and higher degree of returns to scale than that reflected by the incomplete or partially adjusted responses of time-series analysis[2]. The difference in the estimates of the degree of returns to scale from the cross-section and time series data for the industry under study may be seen from this angle. By intitution, however, we choose the linear fits since they at least confirm the findings of others regarding the degree of returns to scale for the industry. (Alag 1969). Moreover, from the limited cross-section data used in this analysis it is difficult to arrive at any generalization.

Concluding Remarks

The prime objective of this paper was to establish a long-run cost function and measure the degree of returns to scale prevailing in the Indian paper industry during the period 1949-64. For this purpose two versions of the cost function were fitted to 1949-1964 data. In one version the total cost of production at current prices has been regressed on the quantity of output and input prices for the industry. In another, the deflated total cost has been regressed on the quantity of output alone. Both fits support the hypothesis of constant returns to scale prevailing in the industry during the period 1949-64.

The effect of the prices of capital services, fuel and power, and labour inputs on the total cost of production of the industry, was almost insignifiicant during the period 1949-1964, but the prices of materials turned out to be a highly significant cost factor.

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[2] This is based on the line of arguments given by Kuh (1959).

Note: Tables referred to in this article may be found in the author's Ph. D. dissertation on "Indian Paper Industry, 1949-1966 : An Econometric Analysis."

Planning for Post-Graduate Employment

R. C. Srivastava*

Generally speaking the professional occupations, more common in nature, require at least four years of college education, and most of them also require special professional training for the particular profession. Quite a large number of students come out from the Universities after obtaining their post-graduate degrees. In an academic term they are considered to be specialised in particular subject of social sciences like Economics, History, Sociology, etc. Even a good number have also their science subjects such as Physics, Chemistry, Botany, Zoology Mathematics, Statistics etc.

Not all but a sufficient number of post-graduates come out with the hope of getting some jobs. The job potentialities in different sectors are limited. In public sector there are very few chances of getting a job and direct employment may be on the tips in the private sector ; where one gets the job by virtue of his personality or the quantum of his relations or the influence in the management.

But my subject is not to criticise the way of recruitment of personnel in any sector but to apprise the readers the various avenues and fields through which they are recruited. Another problem of greater importance is underemployment. Though one gets the job not up to the mark of his qualifications yet he continues his efforts to get in touch with other avenues for getting a more prospective job. He undergoes various tests and joins competitions for securing a better job.

During these days the problem of unemployment and under-employment has been increasing even in the most developing countries like U.K., U.S.A., and France, but in underdeveloped countries like India, Pakistan, Srilanka and Burma this problem is likely to be more aggravated due to the fast growing population. Though the growth of industrialisation is rapid in underdeveloped countries, but this problem does not seem to be at stake.

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The problem of employment is a complex one which constitutes unemployment and underemployment. Due to the rapid expansion of the corporate sector, in which Government also shares the responsibilities in the management, some Government personnel also join such corporations on deputation or on foreign service term. But the media of recruitment in Government service is through various agencies like States Public Service Commission, Union Public Service Commission, etc., and Railway Service Commission for Railway department all of which share quite a good percentage of employment. Some of the candidates possessing extra-ordinary academic qualifications like first class and high second class are absorbed in the posts of lecturers in colleges or other prospective assignments in public, private and corporate sectors, Of course some percentage of laborious ones who can afford as per their financial and other domestic conditions do not run for the job immediately but prepare themselves for appearing in competitive examinations. In fact success in competitions touches mainly those who have the qualities of hard work, perseverance and patience. These competitions may be for appointing officers, for Indian Administrative Service, other services in different fields of Central Government, State Services or in banks, semi-Government organisations and private concerns.

There is need to have the objective education with the aim of obtaining professions in some research, or statistical organisations like Central Statistical Organisation of Government of India where the candidate is required to undergo some progressive reports. Men in such departments are required to attain some statistical education before taking up such jobs. Recently in most of the Universities some compulsory papers like Statistics at graduate and post-graduate levels have been introduced. It will be appreciated if the persons mainly engaged in offices inculcate in them the habit of increasing some advanced qualifications and professional training. Because chances of getting good opportunity become very restricted unless one is fully equipped with aptitude for the particular job. Generally the persons in the field of statistics lack the professional qualifications for taking up the job like statistician. The Indian Statistical Institute, Calcutta, has done a commendable job in training the candidates in getting the assignments in public and private sectors in the field of statistics. The institute offers a very high standard of professional course namely

Statisticians' Diploma Course and Certificate Course in Statistical methods, etc. After completing this diploma course one can be very certain in respect of his career achievement. Apart from the Diploma Course, the institute offers certain refresher and longterm courses exclusively for the sponsored personnel mainly from States and Central Government Departments.

The problem of unemployment after independence has been increasing mainly due to the factors of rapid growth of population, large displacement of population from the agricultural to the non-agricultural sector. However the Government as a result of partition and shifting of occupation gave a serious thought to this problem. In spite of the great efforts of the Government the First Five Year Plan ended with a backlog of 5.3 millions unemployed, 2.5 millions in urban areas and 2 8 millions in rural areas. The employment target of the First Plan also fell short by 1.1 millions. During the Second Five Year Plan employment of 8 millions in non-agricultural sector was created. But it was estimated that for complete eradication of unemployment 16.8 millions jobs would have to be created.

The Third Five Year Plan began with a backlog of unemployment of about 7 millions, new entrants in the labour force were estimated at about 17 millions. The Third Plan envisaged the creation of 14.5 millions jobs during 1961-66—10.5 millions in non-agricultural sector and 4 millions in the agricultural sector. Employment in the organised sector during the Third Five Year Plan increased from 12.09 millions to 15.46 millions or by 27.9%. Even so the Third Plan ended with a backlog of unemployment of about 10 millions. According to the draft outline of the Fourth Five Year Plan 23 millions of the new entrants to the labour force have been admitted and efforts had been made to provide jobs to 19 millions. This excludes backlog of 10 millions of unemployed persons carried forward from the Third Plan.

In a socio-economic planning in underdeveloped countries like ours, it is largely the responsibility of the graduates and post-graduates to mould themselves for the need of the time and adopt such a professional qualification which would be helpful in making the career a success and for the nation. Everyone desires an occupation in which he can use his highest gifts of mind and body. Apart from monetary considerations, there is a real satisfaction to be enjoyed in doing a job well, and this creates in most people a sense of power and well-being which contribute very markedly to their happiness.

A Look at a Possible Long-Run Continental and World Population

Venkareddy Chennareddy*

Economists have long been concerned with a possible population explosion especially in the developing countries because of its undesirable consequences such as lower standards of living. The quality and style of life of people in any developing country can be improved rapidly only if the harnessing of natural and human resources is combined with improved technology and effective population control programs. The purpose of this article is to provide the possible magnitudes of future population in the continents and in the world and to suggest a need for a world-wide plan for population control in the developing countries.

The World Bank[5] and the United Nations[4] have projected population independently based on future fertility rates and on the various governmental health and population planning programs. Because of the differences in subjective assumptions, the projections made by these two agencies differ widely. Chennareddy[1,2] has projected population to the year 2035 for each continent and for the world using a modified logistic curve† which has special features : it provides an upper limit to population in the continent ; it provides a turning point in the population growth curve ; it lends itself for statistical estimation by the least squares method.

Table 1 shows population projections for each continent and for the world as projected in this study using the previous two studies

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† The logistic curve fitted is $P_t = \frac{\lambda P_o}{a+(\lambda-a)e^{-\lambda t}}$. This is transformed into the following form : $Z_t+_1 = A+BZ_t$ where $Z_{t+1} = 1/P_{t+1}$, $Z_t = 1/P_t$, P_t is the population in the t, P_o is the population in the base year 1965. t is the time variable with zero value in 1965 and takes additional value for every five years.

of Chennareddy[1,2]. Chennareddy has projected world population to 6.593 billion in the year 2000 whereas World Bank[5] and the United Nations[4] have independently projected to 6.690 billion (according to World Bank's B projection) and 6.494 billion (according to United Nations medium projection) respectively. The World Bank has projected 8.136 billion according to its A projection and 13.444 billion according to its B projection for the year 2050 whereas in this study population was projected to 12.445 billion for the same year for the world. Neither the World Bank,[5,4] and the United Nations,[1,2] nor Chennareddy has projected population beyond the year 2100. This article is providing projected population for each continent and for the world up to the year 2500 before which every continent and also the world as a whole will be achieving zero population growth. The calendar year corresponding to the inflection point in the population growth curve and zero population growth stage for each continent are given in Table 2.

The inflection point is the point before which annual increment in population will increase and beyond which it will decrease. East Asia has already reached its inflection point in 1967. This is probably because of aggressive and successful family planning programs in Japan and mainland China which are dominant in terms of population in East Asia. Africa will have its inflection point in the distant future year 2076 and will reach zero population growth stage in the year 2400 much later than most of the continents will attain that stage This in logical and expected because many countries in the African continent have not realized population pressure and therefore have not aggressively implemented family planning and birth control programs. South Asia having already realized the population explosion and recognized the urgent need for rapid population control programs, has long been trying to improve the effectiveness of its birth control programs. The present and future success of such programs in South Asia is reflected in attaining the inflection point and zero population growth stage at an earlier year than Africa will attain such a stage. South East Asia will attain its inflection point and zero population stage in the year 2005 and 2250 respectively whereas South West Asia will have its in the years 2042 and 2300 respectively.

World population is projected to 17.613 billion in the year 2100 and is expected to attain a maximum population of 21.559 billion in the year 2450. Africa is expected to have a population of 0.832 billion in the year 2000 and it is projected to 6.294 billion in the year 2100. Africa will be dominant in the world in terms of population when it attains its zero population growth stage. Africa is expected to attain its maximum population of 9.292 billion. Middle Asia will be next to Africa in dominance in the world in terms of population and will attain its maximum population of 3 355 billion in the year 2300.

The projections of population as provided in this article will come true, especially in Africa, Asia and Latin America, if the countries in the concerned continents will not aggressively implement family planning and birth control programs. A population explosion without an accompanying much higher rate of production may lead to serious repercussions such as a higher unemployment rate, a higher percentage of expenditure on social overhead capital such as general education and health and less expenditure on items such as technology, techniques, and research. Research on technology and techniques will increase labor productivity. Increase in labor productivity is necessary for achieving rapid economic development.

Simmons[8] writes that social intervention is necessary for faster population control in the developing countries. The activities of government should be geared to educate people to make the necessary decisions to limit their family size and to induce their attitude favorable to a small size family. The government in an underdeveloped country should incorporte targets in their economic planning such as : (a) establishing family planning clinics, (b) providing services of a doctor and a nurse free of cost, (c) providing information on contraceptive technology to the masses, (d) providing cash and or kind incentives for limiting family size, and (e) providing legal changes such as legalization of abortion, increasing the legal age of marriage, imposing penalties for increasing family size, putting restrictions on divorces and on remarriages.

Conclusions

The world population explosion in the future decades will possibly lead to world poverty. World poverty can be averted and the standard of living can be improved rapidly by an organized world plan for rapid economic development and population control. Therefore world orgnizations and affluent countries should aim at such an integrated plan and should work together to achieve the required targets in the population problem of poor and the developing countries.

Table I

Projected Population (in millions) for the World and for the Continents 2000-2500

Year	World Total	East Asia	Europe	U.S.S.R.	Middle Asia	South East Asia	South West Asia	Africa	Latin America	Oceania	North America
2000	6593	1476	568	330	1569	809	182	832	659	35	333
2050	12445	1743	735	489	2829	1134	507	2904	1524	55	525
2100	17613	1772	864	631	3256	1314	779	6294	1965	61	677
2150*	20328	1775†	951	730	3338	1348	869	8424	2067	62†	764
2200	21200	1775	1002	788	3352	1353	889	9089	2086	62	804
2250*	21443	1775	1030	818	3354	1354†	893	9247	2089†	62	821
2300*	21519	1775	1046	833	3355†	1354	894†	9283	2089	62	828
2350	21545	1775	1054	841	3355	1354	194	9290	2089	62	831
2400*	21555	1775	1058	844	3355	1354	894	9292†	2089	62	832†
2450*	21559†	1775	1060†	846†	3355	1354	894	9292	2089	62	832
2500	21559	1775	1060	846	3355	1354	894	9292	2389	62	832

* The year in which one or more than one continent will reach zero population growth stage.

† The highest population projected for the continent or world.

Table 2

Calendar years corresponding the inflexion point in the population growth curve and zero population growth stage in each continent

Continent	Calendar year corresponding to	
	Inflexion Point	Zero Population Growth Stage
East Asia	1967	2150
Europe	1989	2450
U.S.S.R	2029	2450
Middle Asia	2004	2300
South East Asia	2005	2250
South West Asia	2042	2300
Africa	2076	2400
Latin America	2022	2250
Oceania	1992	2150
North America	2022	2450
World		2450

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- Farm Incomes in Punjab: Myths and Realities
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- Role of Banks in Economic Growth
- National Wage Policy: Soul or Slogan?

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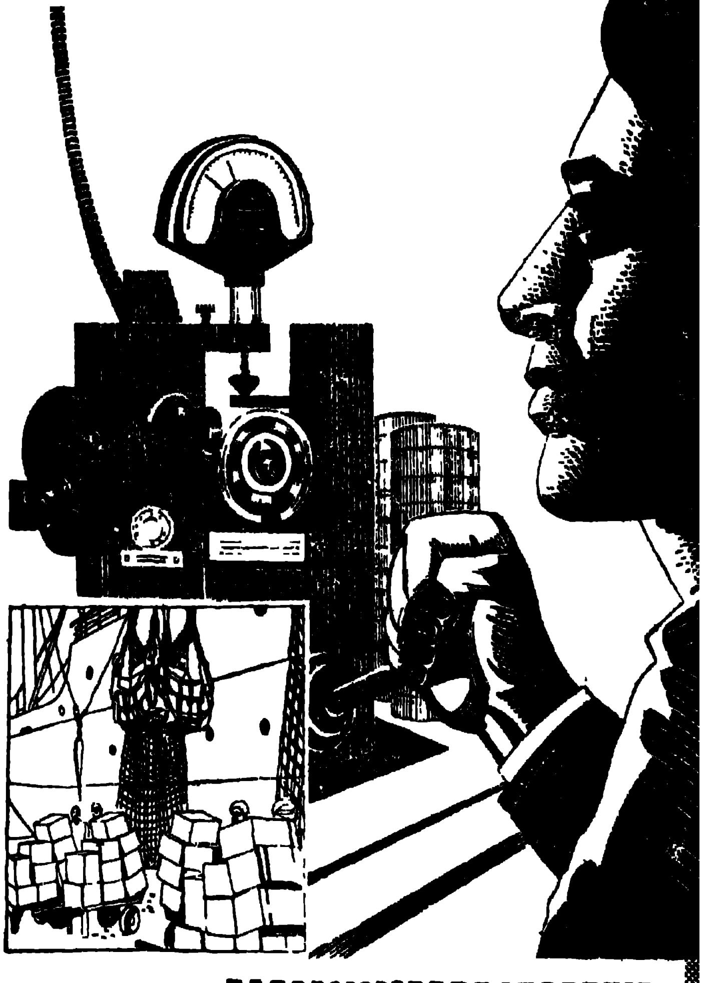

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Contents

Editorial

205 National Wage Policy : Soul or Slogan ?

207 Thoughts on Amendments of Constitution

Articles

S. S. Grewal and D. S. Sidhu
209 Farm Incomes in Punjab : Myths and Realities

D. N. Pal
219 Agricultural Finance, Commercial Banks and Cooperatives

Vasant Desai
228 Role of Banks in Economic Growth

Gopal Krishnan
236 The Public Debt Controversy A Rejoinder

ECONOMIC AFFAIRS

Volume 21 June 1976 No. 6

National Wage Policy : Soul or Slogan ?

It has become a fad of our government to create some avoidable but intricate economic problems and then being entangled by them raise cry to end the problems as a step forward to 'socialism'. One of such problems is the creation of wage disparity. Now to do away with it the government has come out with a mind that it has been thinking very seriously for a national wage policy. In dishing out the idea of national wage the Union Finance Minister has blamed many. Hitting the Life Insurance Corporation of India (LIC) in particular he goes off the tract to say, as reported, that the average emoluments of a LIC employee jumped up from Rs. 3000 to Rs. 15000 in 1974-75, i.e., a five-fold average increase in income in one year. On the contrary for many years LIC bonus rates had shown no increase at all in spite of the expansion of the business nor had the premium rates been reduced. He now realizes that it is a case of conflict between the policy-holders of a monopoly organization and its employees. A socialist government cannot but side with the 'people' against the 'enemy of the people'. The monopoly organization which 'purchased peace' by selling economic rationality is however the government's own.

When the fourth plan ended in a fiasco, the fifth plan had been withdrawn, national productivity was on decline, and the entire economy was in hard grip of stagflation such five-fold increase in employees' incomes (nationalized banks, other government undertakings, and most private sector organizations are no exceptions) was so shocking that for years past thinking people were on asking whether it was not the result of the government's labour policy to win 'popular votes' and remain in power. It conveniently adopted the cheap policy of neutralizing rise in cost of living by tagging dearness allowance to price index and creating a demand psychology by subscribing to the slogan of 'need-based wage'. In its own 'model' field of enterprises (LIC and banks, in particular) it envisioned a model employer-employee relationship within the framework of 'socialism'. A model socialist employer cannot 'exploit' its employees.

So the employees were blessed liberally with 'fringe' benefits and 'wage agreements'. But things turned out otherwise and peace had to be purchased almost from the beginning. The economic laws took its own course. Pay rise in one important industry is enough to force the costs of production of other industries to rise and instigate the workers of these industries to demand for higher wages to retain their previous standard of living. This means more money must be supplied to meet the additional money demand as otherwise a halt will come resulting in recession and unemployment which no democratic government can willingly accept. This game was also not satisfactory to the workers. For there are strategic and non-strategic industries ; the bargaining power of the labour unions of the former is organizationally more strong than that of the latter and their employers are more responsive to their demands as they have a better approach to both money market and commodity market to borrow and raise prices.

No country belonging to free economy can claim a success in having a national wage policy. Any success to any country has been limited to price, income and profit freeze for a specified period. Keeping in view the mood of the economy, some of the developed countries more aggressively redistributed income in favour non-savers. That is, there is no such notion as 'national minimum' or 'national ceiling' of income, and no attempt to get wage rates adjusted within these two extremes. The main reasons behind this inability are three : indeterminate character of productivity, resistances of trade unions, and questionability of equating 'incentive' and 'social justice'.

There is no reason to assume that where other advanced countries have failed our developing country will be a success in this sphere. For our government will meet greater trade union resistance (Emergency cannot last long), equating incentive and social justice may mean distribution and perpetuation of poverty, and lack of basic data means not even a rough approach to determination of national productivity is possible.

It may be that the government wants to exercise some rule of thumb in bringing in the much deviated wage rates to a commonsense norm. Although it would not have any scientific basis, yet it should be welcome. Let there be some beginning. Let 'socialist man' born out of social corrections and social re-education. The path will then be automatically clear of all resistances.

Thoughts on Amendments of Constitution

Since the judgement of the Allahabad High Court on Mrs. Indira Gandhi's election to the Parliament the ruling Congress mind seems to have been fixed to drastically amend the constitution of the country so that the High Offices can be protected from the purview of the judiciary. Outwardly, the stand of the ruling Congress is that neither the constitution nor the judiciary must stand in the way of the will of the Parliament for its will is the will of the people. People are the sovereign in a democratic society. That is, Parliament is the supreme. This is the fundamental of democracy. This fundamental is lost and now the Emergency has given an opportunity to restore it.

The stance is correct. For the Parliament is another name of 'people'. The will of the Parliament must be identically equal to the will of the people. Any deviation of the will of the Parliament from the will of the people means the Parliament's departure from the sovereign power (the people) meaning further that its active organ forfeits its right to continue. But this is a dangerous abstraction. For it indirectly assumes the absolute supremacy of the party-in-power. And if the party is identified with its leader then the supremacy will take the content of absolute authoritarianship of its leader. That is the will of the leader is the will of the party, Parliament, and the people. This also makes personal, party or ideological dictatorship permissible through democratic methods.

Thing like this arises because of confusion in concepts of people, party and parliament, and in their interrelationships. People (the electorate) vote to power the party which convinces them by its deeds, speeches and manifesto that its achievements will be the best in the next term of power within the constraints and inducements of the constitution. The party carries this sanction of the people to the Parliament and activates it through its acts and performances in keeping with the promises made to the people. The will of the Parliament is therefore the *contractual will* of the people and not the party-defined unlimited will of the non-existent people. Speaking simply, the Parliament's will is limited to specified acts. And under no circumstances the Parliament can exceed the constitutional limits. For it is the product of the constitution and not conversely. The constitution is the product of the people-in-constituent-assembly who can change the constitution drastically or replace it by a new one. By internationally accepted democratic convention an important and immediate national matter can be settled by referendum. In spite of this the constitution provides for its own amendments by parliamentary processes. But this is altogether a different thing. Its idea is to keep the constitutian going with changing conditions. It does not visualise a substantial change ; least replacement in any form.

The ruling Congress feels that a time has come when the constitution should undergo very substantial changes, if not a replacement. There may be enough substance in its study. But that cannot be taken to be the general will or national consensus. Its view, even when it talks as a party-in-power of parliament, is no more than the view of a particular party. If it really means democracy it should get its new ideas on constitution processed through the people-in-constituent-assembly. If a constitution, amended or otherwise, is imposed from above it loses its basic character of being the embodiment of people's will and ambitions ; the Parliament no longer remains its product. On the other hand, the constitution becomes the product of Parliament. In giving the sovereignty to Parliament the sovereignty of the people is lost.

Employment Situation

Applicants on Live Register of Employment Exchange (000)

1951	1961	1971	1974	1975
329	1833	4602	8435	9326

Source ; Indian Labour Journal, May 1976.

Farm Incomes in Punjab : Myths and Realities

S. S. Grewal* and D. S. Sidhu*

Often a very rosy picture is painted of the agricultural economy of the Punjab State. Persons not fully acquainted with the present day farming conditions think agriculture to be a lucrative profession. It is with an incomplete understarding of farm economy that there is often a talk of further taxing the already over-taxed agricultural sector. It is conceded that in the wake of introduction of new agricultural technology, there has been an increase in farm incomes and farming today is in a better shape than it was a decade back. But the present analysis would indicate that earnings of a majority of the farm population are meagre and it is only a handful of peasants who have incomes sufficient enough to afford them a reasonable living.

Role of Farm Size

The net farm income is mainly a function of farm size and net profits per unit area. The net profits per holding, at a point of time, depend upon several factors such as the type of farming practised, the quantum of use of various iuputs, the prices of inputs and products and the overall management efficiency of the operators. The inter-farm differences in use of various inputs and managerial efficiency, although important, are not significant enough to wipe out the role of farm size as a major determinant of farm incomes. Therefore, farm size is still the key variable governing the farmers' prosperity.

Size distribution of operational holdings in the Punjab is shown in Table 1.† According to the Agricultural Census, 1970-71, there were 13.75 lakh operational holdings in the State. Out of these about 5.18 lakh holdings (37.63 per cent of total) were below 2.5 acres in size. These are the marginal farms. Again, about 4.30 lakh farms fell between 2.5 and 7.5 acres and formed 31.26 per cent of the total population. These are called small farms. The number of farms lying between 7.5 and 12.5 acres size range was 1.90 lakhs and these comprised 13.84 per cent of the total. This category of farmers can be designated as operators between small and medium farmers. Farms between 12 5 and 25 acres numbered 1.69 lakhs and formed only 12.27 per cent of the operational holdings. We would designate this category as medium farmers. Farmers possessing land holdings above 25 acres number only 0.69 lakhs and form barely 5 per cent of the farm operators in the State. This category of farmers may be called the large farmers. The above statistics show that even in a State like Punjab, there is a very large number of marginal and small farms comprising about 69 per cent of the total farms.

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† The holdings are referred to as operational holdings in the Agricutural Census, 1970-71. However, we feel that this distribution in reality is more close to ownership pattern than operatoinal one. To the extent, it is true, it might

Farm Incomes

Farm income per unit area is expected to be different in different types of farming areas. The information on farm incomes is not available for each district/region separately and for different sized farms. However, some studies conducted during the last 4-5 years give this information for some districts or for the State as a whole. The figures on farm incomes worked out in these studies were used in computing the income of separate categories. (Table 2).

We have viewed the concept of returns used in this analysis in the way most of the farmers usually look at their returns while taking farm management decisions. The concept of farm business income denotes the returns to the factors of production which are usually not paid for by majority of the farmers. These are owned factors of production and included owned land, family labour and management of the farmer. These costs have not been taken into account in working out the income figures. However, the commercial concept of costing should include all costs including the imputed costs of owned factors of production for the purpose of working out the

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lead to some shifts in the proportion of cultivators in different categories. However, the main line of argument will still hold good.

cost of production. If we look at the returns from that angle, the per acre returns from farming are only marginally positive.‡

Table 2 indicates the farm business income in different studies which varied from Rs. 536.35 to Rs. 748.18 per acre. We would, however, go by the average figures from all these studies although they have limitations of their own. The average income thus works out at Rs. 626.95 per acre. We would evaluate the income of various categories of farmers by using this figure of farm income. We are aware of the fact that application of the yardstick of average income to all classes of farmers is objectionable because there are bound to be inter-class and intra-class differences in incomes. In specialised farms like vegetable farms, orchards and dairy farms where the incomes might be somewhat higher than those depicted by the above studies, to this extent, these figures may not be quite well applicable to these cases. However, the number of such farms in the State is much less as compared to general crop farms. But the non-availability of data leaves no choice and in the absence of better information, these were considered fairly reliable estimates.

Estimates of Farm Income for Various Farm Categories

For working out the estimates of farm income for different farm categories, one has to know not only the income per unit area but also the average farm size for a particular category. The information on average size of farm within a category was not available. Therefore, in the absence of better estimates, the average size was assumed to correspond with mid values of each class of operational holdings. The average size for marginal farm category has been taken somewhat higher than the mid value because it is believed that there will be larger dispersion of farms towards the upper limit. This information is presented in Table 3. A perusal of the figures in Table 3 would show that marginal farms constituting about 38 per cent of the total farms in the State had an income of Rs. 1252/- per annum. The small operators which constituted about 31 per cent of the total farms got an income of Rs. 3130/ per year. The income of the category between small and medium farm operators is Rs. 6259.50. The medium farms realise an income of Rs. 11736/- and the last category of large operators gets an annual income of Rs. 15649.00 and above. Translated on monthly basis, the income of marginal and small farm operators works out at Rs. 104/- and Rs. 261/- respectively. The income of the category between small and medium operators was Rs. 521/- per months. The medium operators have an income of Rs. 978/- per month and the monthly income of the last category, i.e., large farmers, works out at Rs. 1304/- and above.

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‡ 5 (i) The per acre returns work out at Rs. 62.94 based on a study "Economics of Agricultural Production and Farm Management in Punjab", 1969-70.

(ii) On the basis of another study "Economics of Farm Management in Ferozepur District, 1967-68 to 1969-70" the return has been computed at Rs. 76.60 per acre.

The income figures reveal that the lowest category of marginal farmers comprising about 38 per cent of the total holdings was not better than agricultural labourers. The minimum wages for a permanent agricultural labour have been fixed at Rs. 1400/- per annum in Punjab. The small farmers forming about 31 per cent of the farm operators could be compared to the lowest paid ministerial staff. The income of the category between small and medium operators (Rs. 521/- per month) could be compared to that of an assistant and such farmers comprised about 14 per cent of the total. The medium farmers forming 12.27 per cent of the total with an income of Rs. 978/- per month could be considered to have a reasonable income to maintain themselves. It is the last category of farmers forming only 5 per cent of the total farm operators who have a monthly income of Rs. 1304/- and above. This category could be considered to have an income level considered to afford them a reasonably good standard of living.

It is thus quite evident that majority of the peasants including marginal and small farmers which number about 68 per cent are having a very meagre income and are not in a position to invest much for their well-being and for the betterment of their children. The category falling between the small and medium farms is also not much better off. It is only the last two categories comprising about 17 per cent of the farm operators who can be considered to have reasonably good incomes.

Reduction in Farm Size

The farm size in the state has undergone a sharp decline during the last two decades. This has happend because of a number of reasons. The imposition of land ceiling twice after independence is an important reason. The present ceiling of 7 hectares of irrigated land for a farming family has whittled down the farm size considerably. Besides, there has been a lot of sub-divisions and fragmentations of land. Due to the fast growth in the population, the sub-division has been further accentuated by the growing spirit of individualistic outlook as a result of which families are breaking up fast. Then, the fear of a variety of discouraging taxes like the wealth-tax and the estate duty, have prompted the individuals to sub-divide the land holdings. The Hindu Succession Act, as a result of which the daughters also inherit the land along with sons, is also largely responsible for the sub-division and fragmentation of land holdings, besides having other implications like promoting disharmony and bitterness in otherwise amiable family relations. In fact, what has been achieved as a result of commendable work done in consolidation of land holdings is fast being undone by these factors. The cumulative effect of these factors is that farm size today is much smaller than what it was a decade back.

Table 4 depicts the number of operational holdings according to size at two points of time. The number of operational holdings in the State stood at 7.28 lakhs according to 1961 census and it has increased to 13.75 lakhs as recorded in the agricultural census of 1970-71. Thus, there was a substantial increase of 6.47 lakh holdings just in one decade. As regards the increase in number of holdings in the specified size groups, it will be seen that the marginal and small holders which comprised 6 69 per cent and 26.19 per cent of total operators in 1961 increased to 37.63 per cent and 31.26 per cent respectively in 1970-71. In other words, the number of farm operators below 7.50 acres increased from 32.88 per cent to 68.89 per cent during the same period. On the other hand, there was a sharp decline in the proportion of farmer in the upper size groups. Holdings in the size group of 7.5 to 12.5 acres declined from 25.30 per cent in 1961 to 13.84 per cent in 1970-71 Likewise, the percentage of farmers falling between 12.5 and 25 acres size range came down from 31.74 per cent to 12.27 per cent in the same period. The large farmers having holdings above 25 acres which formed 10.08 per cent of the farm operators in 1961 were only 5 per cent in 1971. The proportion in the upper two categories operating land holdings above 12.5 acres declined from 41.82 per cent to only 17.27 per cent in the same period. Since the forces of the sixties are still in operation in the seventies, the size of the operational holding continues to be further reduced. No wonder, if the size of holding is reduced to just half of the present size in the eighties.

These figures clearly bring out that the farm size had dwindled very fast during the last one decade and there are virtually no big farmers in the State. Families which appear to have big farm holdings are the one who are carrying on joint cultivation. This was the position in 1970-71. The picture would have deteriorated further by now. To talk of big capitalistic farmers in Punjab State is based on ignorance of facts. The primary concern of the policy-markers should now be not to worry so much about the large farmers as to prop up the tottering majority of the marginal and small operators who cannot stand on their own feet.

Role of Non-Farm Incomes

The Punjab farmers appear to be a little better off not because of their farm incomes but because of the fact that they strive very hard to supplement their incomes through non-farm sources. The industry and hard work of Punjabi peasants are proverbial A large number of Punjabis earn from services in army, transport and other business and have migrated abroad almost to every nook and corner of the world. The remittances from these sources supplement the income of their families.

Policy Implications

Taxation of Agricultural Sector : Persons un-informed about the farmers' conditions often plead for taxing the agricultural sector. The foregoing analysis, however, reveals a different story. At present, an income of Rs. 8,000 per annum is exempted from taxation. With some rebates and concession, the workable limit rises to Rs. 10000/- and even above. The agricultural profession because of its inherent uncertainly would call for even larger rebates. Thus, for pracitcal purposes, persons operating land holdings under 25 acres do not possess incomes above taxable limits. It is only 5 per cent of the farmers in the upper size bracket having an income of Rs. 11736/- and above per annum who can contribute something by way of taxation. At this point of time, it is also worthwhile emphasizing that agricultural sector deserves a special treatment because incomes here have to be generated through a lot of hard work and drudgery unlike most of the other businesses where it is easy to realise incomes by way of speculative activities.

Help to Poor Farmers

For a vast majority of farmers, there seems to be a genuine case for help. The Government, no doubt, have launched special programmes like SFDA and MFALA for the uplift of petty farmers ; but this is not enough. The other down-trodden groups like the scheduled castes and backward classes get several special privileges from the Government. This is due to the fact that they are socially and economically handicapped. We agree that such socially under-privileged groups do deserve some special concessions. But there is a case for extending, at least, some concession to farmers at the lowest rung of economic ladder. They are economically as worse off as some of the landless classes and are farmers by name only.

Holdings Process of Sub-Division and Fragmentation

The imposition of ceilings on land holdings has received highest priority in the programme of land reforms. It has its justification consistent with the socialist pattern of society. But the more important aspect has not received the desired attention so far. There is an immediate need to bring a halt to the rapid process of sub-division and fragmentation of land holdings by placing certain lower limits on farm size. In the prevailing set up, probably, it is not very easy to do so but we have to face the facts. Sooner something is done about it, better it would be. Incidentally, it may be mentioned that our policy on farm size and on development of technology are running counter to each other. Little has been done to promote machine technology suited to the fast dwindling farm size.

Optimum Farm Size

A question is often raised about the size of the land holding which an individual should have to afford for a reasonable standard of living. This is a difficult question to answer and will have no unique answer. The farm size would depend upon the type of farming practised, location of the farm, irrigation facilities available, the level of technology at which the farmer is operating and the quantom of income considered adequate for a reasonable living and several other factors. But still, we can try to broadly answer this question in the light of the informtion generated in this analysis. First of all, we shall have to come to an agreement about the minimum level of income considered adequate for affording a reasonable standard of living to a farming family. Opinions on this would differ and it would have no precise answer. But taking into account the prevailing economic conditions in the country, we think that an annual income around Rs. 12000/- is just sufficient for an average family to afford a reasonable standard of living. With an average annual income of Rs. 625/- per acre, it would require about 19 acres of irrigated land to provide this much income. But the statistics presented earlier show that about 83 per cent of the operational holdings in Punjab are below 12.5 acres.

Paradoxically, in the non-farm sector, the concentration of economic power with big business houses seems to be on the increase ; however, the reverse is happening in the agricultural sector. Punjab State still remains to be industrially backward compared to several other States of the country and there is a genuine need to strengthen the industrial base of the State to provide off-farm employment to the people.

Thus, while looking at the economic conditions of the Punjab peasantry we should go by the factual picture and not generalise on the basis of the apparent prosperity of a handful of operators who form a very small percentage of the total families.

Table 1

Number of Operational Holdings by size in Punjab
1970-71

(Acres)

Size Group	Number of	Per cent
Below 2.5 acres	517,568	37.63
2.5—7.5 acres	429,909	31.26
7.5—12.5 acre	190,298	13.84
12.5—25.0 acre	168,734	12.27
25 acre and above	68,883	5.00
Total	13,75,792	100.00

Source : Agricultural Census, 1970-71 : reported in Statistical Abstract of Punjab, 1974.

Table 2
Farm Business Income per Cultivated Acre Based on Different Studies in the Punjab

Title of study	Year	District covered	Income per acre (Rs.)
1. Farm Business Analysis for Ludhiana I.A.D.P. District	1972-73	Ludhiana	748.18
2. Impact of Mechanisation in Punjab Agriculture with special reference to tractorisation	1972-73	Entire State	536.35
3. Social and Economic Implications of large scale introduction of H.Y.V. of wheat in Punjab with special reference to Ferozepur district	1971-72	Ferozepur	582.99
4. Social and Economic Implications of large scale introduction of H. Y. V. of rice in Punjab with special reference to Gurdaspur District.	1972-73	Gurdaspur	636.10
		Average	625.95

Table 3
Estimated Farm Business Income for Different Categories

Farm category	Size range (acre)	Average farm size (acre)	Farm business income per acre (Rs.)	Total income (Rs.)	Income per month (Rs.)
Marginal	Below 2.5	2.00*	625.95	1251.90	104.32
Small	2.5—7.5	5.00	—do—	3129.75	260.81
Between small and medium	7.5—12.5	10.00	—do—	6259.56	520.91
Medium	12 5—25	18.75	—do—	11736.56	978.05
Large	25 and above	25 and above	—do—	15648.75	1304.06 a above

* The average size for marginal farm category has been taken somewhat higher than the mid value because it is believed that there will be a larger dispersion of farms towards the upper limit.

Table 4
Change in Farm Size in the Punjab between 1961 and 1970-71

Farm category	Size group	Number of farms 1961	Number of farms 1970-71	Per cent farms 1961	Per cent farms 1970-71
Marginal	Below 2.5 acres	48,735	517,568	6.69	37.63
Small	2.5—7.5 acres	190,780	429,909	26.19	31.26
Between small and medium	7,5—12.5 acres	184,470	190,298	25.30	13.84
Medium	12.5—25 acre	231,125	168,734	31.74	12.27
Large	25 and above	73,405	68,803	10.08	5.00
	Total	728,315	1375,392	100.00	100.00

Source : Census of India, 1961 and Agricultural Census, 1970-71, reported in Statistical Abstracts of Punjab, 1972 and 1974 respectively.

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Agricultural Finance, Commercial Banks and Cooperatives

D. N. Pal*

Our country, so vast in dimension, having different climatic conditions at different parts at the same time, being under the mercy of the monsoon, has to be, up-till to-day, by and large an agricultural country. About 80 per cent of our total population are somehow or other dependent on agriculture. More than 51 per cent of our total national dividend comes from this one single industry, viz., agriculture. But the question of solving the financial problem of our agriculturists ever since remains a big interrogation. In the early part of this century when we did not have our land-people-ratio so unfavourable even then popular say was that our country suffers more from the famine of finance than of food. Now, of course, we have got both.

For the solution of this problem, that is for removal of inherent indebtedness of our agriculturists who have been proverbially known as to have been born in debt, live in debt and die in debt, various experiments have been made from time to time. From the beginning of this century we introduced cooperative method choosing cooperative agencies as the most suitabler ones for supply of finance to the agriculturists. But, to our surprise, after about half a century we could find in 1950-51 that the cooperative agencies could supply only 3.1 per cent of the total needs of the agriculturists. Of course, at that time the commercial banks' share was only ·9 per cent. It was but natural; because the banking system in our country was introduced with a view to helping the trade and commerce which had their place of birth in the urban areas. Soon after, the industries which again had their roots in the cities and their suburbs were being financed by the commercial banks. Sound banking institutions have always to follow 3 essential principles, viz. safety, liquidity and profitability. To conform to these principles commercial banks can hardly indulge in long-term financing since they have their life-blood in the short-term deposit system.

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But after independence a new awareness seized our country and it was very correctly appreciated that the real growth of prosperity of the country as a whole could never be possible so long as the majority of the countrymen—the people depending directly or indirecly on the agricultural industry, could not have been uplifted from the abyss of financial misery. This awareness called for a rethinking in the responsibility of the commercial banks. As a result the Social Control Bill was introduced demanding priority in financing three sectors, viz., agriculture, small scale industries and exports. By the time this could be experimented to any appreciable extent, as many as 14 of our big banks were nationalised in July, 1969. And thus the entire control of the banking structure was brought under the direct authority of the Government inasmuch as the quantum of investment and deposit in the entire banking structure of the country. As a result of this nationalisation, it is to be admitted on all hands, a tremendous development has been visible in the overall growth of the banks.

The commercial banks, especially, the nationalised ones, have whole-heartedly addressed themselves to the task of promoting export and financing small scale industries. They have also come down to the field of financing agriculture. The export position of our country has touched a new high by now. In the current year (1975-76) it is likely to reach Rs. 3,800 crores. Of course, the import figure has also jumped up from Rs. 1,824 crores in 1971-72 to Rs. 4,468 crores in 1974-75. For both, the commercial banks play a crucial role. The advances to small scale industries have also jumped up from Rs. 286 crores in 1969 to Rs. 1,040 crores at the end of March, 1975.

The total investment in agriculture up to the end of December, 1974 has been to the tune of Rs. 540 crores by the commercial banks while the investment in short-term credit made by the Primary Credit Societies (1.36 lakhs active societies) was Rs. 760.5 crores as on 30.6.74. The investment in long-term loan was Rs. 471.5 crores (as on 30 6.74) made by 857 Cooperative Primary Land Development Banks.

Our total requirement of agricultural finance during the Fifth Five Year Plan has been assumed to be of the order of 4,000 crores. (S. T. & M. T. Rs. 3000 crores & L. T. Rs. 1000 crores). It is likely that Cooperatives' investment may reach up to Rs. 2400 crores including L. T. Loans at the end of the 5th Plan. This being so the responsibility undertaken by both the agencies the commercial banks and the cooperatives is anything but adequate.

During the period of more than a decade past our country also, in order to keep pace with growing population, had addressed itself to the task of bringing about a green revolution. This requires accelerated growth in the supply of finance not only in the short and medium term but in the shape of long-term financing also. With this end in view, over and above the efforts undertaken for quicker development of the cooperative long-term financing agencies another institution, viz., A.R.C. (now A.R.D.C.) was introduced since 1963. For better marketing arrangement and arrangement of processing of the increasing agricultural yields, another institution, viz., N.C.D.C. was also introduced since 1962. But one criticism against the green revolution has, at times, been made that it made well-to-do class of agriculturists richer and the small agriculturists poorer. The Rueal Credit Review Committee, amongst a myriads of useful recommendations made two very important recommendations, viz., (i) the establishment of a Rural Electric Corporation—mainly for helping irrigation and (ii) setting up of S.F.D.A. and M.F.A.L.—for looking after the interest of small farmers and agricultural labourers. Progress in this line is no doubt adding to the overall growth of the agricultural industry. But still the space of growth cannot be said to be commensurate with the quicker growth of our teeming population. This has given further scope for bringing about some drastic changes in the field of supply of finance to this industry and for relieving a few millions of the hand-to-mouth farmers of their age-old debt burdens. It is with this end in view that the Government has introduced a series of socio-economic measures of far-reaching importance. One of them, as included in the 20-point programme, is the moratorium declared on the rural indebtedness. But this called for the effective steps being taken in setting up alternative agencies to fill up the gap in rural credit. As such, a legislation in the Parliament has already been passed for the establishment and incorporation of Regional Rural Banks for providing adequate facilities to farmers, to the artisans and other village people engaged in productive work—admittedly, it is a purposeful measure aimed at transforming the economy of rural India. This act was passed in replacing the Ordinance which was promulgated in September last.

These banks are expected to finance reorganised cooperative societies and farmers' service societies with universal membership. 9 such rural banks have already been established in the different States and it would be the efforts of the Government to establish in all 50 such Regional Rural Banks by the end of March, 1977. Taking into account the achievements of the cooperatives, and the commercial banks and also their limitations, the idea of establishing a new type of institution inheriting the plus points of the cooperatives as well as the commercial banks, this new type of banks has been suggested. The Regional Rural Banks are to supplement the efforts of the existing credit institutions in financing the small and the marginal farmers, rural artisans, etc. For tackling the root causes of indebtedness and for providing integrated services like supply of quality seeds, fertilisers, agricultural implements and other inputs and for giving customary services in respect of tractor, power tiller, etc., for providing credit for all the essential needs including provision of marketing facilities at the door of the cultivators this scheme has been conceived. Farmers' Service Societies or viable multi-purpose societies are expected to be organised on a large scale in systematic manner.

The Rural Credit Survey Committee had recommended an integrated scheme of rural credit, the major element of which was the development of cooperative structure with active State partnership. Since 1951, the progress of cooperative credit has been very impressive. Short and medium term credit in 1951-52 was only Rs. 24 crores. But in 1971-72 it reached Rs. 608 crores. Of course, with the increase of supply in credit, the demand also has increased with the result that there is a wide gap still now to be filled in.

During the last five years the increasing participation of commercial banks in dispensing direct agricultural credit is also commendable. Rural branches of commercial banks expanded very quickly following nationalisation. As against 1833 branches in the rural areas in June, 1969 we have got up to March, 1975 as many as 6697 branches in the rural areas. Direct financing by commercial banks to agriculture was to the tune of 54 crores in June, 1969 which has risen to Rs. 435 crores in June, 1974 and further to Rs. 540 crores in December, 1974. Undoubtedly, it is a commendable achievement. But at the same time we would remember that it constitutes not more than about 6 per cent of the total commercial banks' credit.

The main difficulty, however, with the cooperative credit structure is its inability to mobilise adequate deposit resources. Their managerial weakness and the functional pattern have also come in the way of efficient operation, specially in respect of effective supervision of credit and inadequate coverage of the small and marginal farmers. Limited absorptive capacity of refinance from the higher tiers of the cooperative structure, because of inadequate non-overdue cover, is another stumbling block. Consequently, the scale of finance actually disbursed by the cooperative has not been in conformity with the requirement of technology-intensive agriculture.

On the other hand the commercial banks do also suffer from two very important limitations, viz., (1) the cost structure of commercial banks and (2) their attitudinal character. It has been found that in many rural areas the expansion has been marked by high cost of operation. Most of the rural branches are operating as deposit centres rather than advance centres. Naturally, the credit dispensation in most rural banks is not adequate to earn for them sufficient income to make those branches viable. This being so it is too difficult to foretell as to how long these banks, although successful in deposit mobilisation, will be able to continue to spare a share of the income earned out of the advances in the urban areas to maintain the existence in the rural areas.

The other difficulties faced by the commercial banks may be sorted out as follows :—

(a) It is extremely difficult for the commercial banks to deal with innumerable small farmers spread over a large number of tiny villages. The managers of the banks have, as such, no adequate knowledge about the background of their customers.

(b) Recovery poses a major problem on account of the fact that the lending policies followed by the commercial banks in the field of commerce and industry are not at all suitable to agricultural advances. Taking an instance we may show that between June' 72 and June' 73 the quantum of agricultural advances increased by Rs. 24 crores while the amount of recovery increased by Rs. 6 crores only. The proportionate recovery of total demand has thus stood lower at 46.6% at the end of June' 73 as against 50.7% at the end of June' 72.

(c) Link between credit and development is also very thin. Diversion on large scale and lack of effective utilisation of the commercial banks' loans are rampantly evident. This is substantiated by a study of a particular block in Coimbatore district where about 45% of the farmers are known to have utilised the loan for purposes other than agriculture.

(d) In the matter of direct lending to agriculture preferred by the commercial banks, integration between credit and supply and services on the one hand and marketing on the other hand is almost absent.

For the elimination of the above limitations an appropriate extensive frame-work for effective flow of agricultural finance is most essential It is also necessary to make innovations in farm credit technology so as to bring commercial and cooperative banks closer so that they may work as a well-knit unit. A strong coordinated approach by major institutional agencies can alone ensure optimum utilisation of available resources.

As 1 envisaged the Regional Rural Banks Scheme is, perhaps, a mechanism in the shape of institution which combined the local feel and familiarity with rural problems which the cooperatives possessed and the decree of business organisation, ability to mobilise deposits, access to central money market and a modernised outlook which the commercial banks had.

For its success, I have the feeling, that certain amount of State initiative to speed up the progress of institutional lending, specially with a view to meeting the credit needs of the smaller farmers is an essential factor. These Rural Banks are thus supposed to form the background of the idea of State sponsored regionally based and rural oriented commercial banks.

Up-till now we have in view the establishment of only 50 such Regional Rural Banks. But in my view, for such a vast subcontinent, having a population of about 60 crores, of which no less than 40 crores are in the agricultural field, involved directly or indirectly, 50 of such banks will be able to touch not even the fringe of this gigantic problem of rural financing. This being so the increasing responsibility will continue to be shared by the commercial banks along with their old friends in the fields—the cooperative agencies.

Prevalently, the commercial banks have introduced group financing schemes, especially for supply of shallow tube-wells, etc. This system is in a sense akin to the old system of unlimited liability type of cooperative credit institutions. After about half a century's experiments we had to discard that unlimited liability system for certain unavoidable weaknesses. It is too early to foretell if the Group Financing Scheme will continue successfully for a good long time. Although, of course, it gives an appreciable advantage ragarding group utilisation of the benefits bestowed by the credit undertaken by the group as a whole.

Operation of the group loans schemes led to the availability of irrigational facilities throughout the year. This is an unprecedented experience for the agrarian community. This has resulted in fundamental changes in farming techniques. Multiple cropping has also been possible. Use of better seeds, fertilisers and pestisides has characterised the new farming methods. But the system calls for constant involvement of the banks in rendering extension services in different stages of farming operations. Educating the farmers on the new techniques of farming and making them aware of the judicious and most remunerative cropping plant are part of extension service. Through the help of the group loan scheme, the farmers get the opportunity to familiarize themselves with the use of new electro-mechanical devices.

For proper maintenance of tubewells and also for ensuring availability of agricultural inputs, small agro-service centres under local entrepreneurship have come up. This has helped providing employment opportunities to the educated local youths. Undeniably, the group loans scheme has created an impact which is more external in element rather than in impulse of the indigenous system. As a result the scheme has led to the emergent of certain social problems also.

The most important problems is that it has led to the eviction of share croppers. There are areas of land under this scheme where land owners loans out their lands to share croppers. With the increasing productivity of land with the consequent profitability of farming under the group loan scheme the owners become reluctant to lease out their lands according to the traditionally accepted terms. The land owners argue that while they have to bear the entire stake and borrow against the land mortgaged to the bank, it is the share cropper who get the share of increased productivity. The benefits of bank financing, accordiug to them, have percolated more to the share croppers than to the land owners. This has induced the land owners to evict the share croppers. Where eviction has failed withholding of requisite inputs by the land owners has put the cultivation to a halt.

Chronic power shortage, non-existence of motorable roads and insufficiency of transport facilities are the other problems standing in the way of commercialisation of agriculture. Fertilisers scarcity and absence of organised marketing facilities also add fuel to this flame. However, even in the face of all these difficulties it is to be admitted that the group loans scheme has so far been able to create an appreciable impact.

There is another system just introduced by the commercial banks wherein the loans are passed through some associations or societies registered under the Societies Act instead of under Cooperative Societies Act. It is difficult to assess the additional advantages of this system over the system of passing of finances through cooperatives. While the registered cooperative societies are strictly under the regular supervision and audit by the department of cooperation, there is no such arrangement, up-till now, of controlling and guiding the activities of societies and associations registered under Societies Act. Hence, it will be too much to expect that this system could sustain the test of time.

The commercial banks, in my view, instead of lending directly or through association of the type referred to above, may do better in routing their finance through the cooperatives. If so done, the arrangement may prove to be good both for the leading agencies and the borrowers. If it is so done the resources of the commercial banks and the local knowlege and experience of cooperatives can be rationally combined. The provision of commercial bank finance through cooperatives will have the following specific gains :—

(a) The geographical coverage by cooperatives has been adequately wide. 95% of the villages, 36% of the rural population and 43% of the agricultural families have been covered by cooperatives. Cooperatives are, therefore, well-knit universal institutes in our rural India covering a large number of people through a large number of branches.

(b) They enjoy certain special privileges and legislative assistance from the Government. Exemption of stamp duty, registration fee, free supervision and audit arrangement by Government agencies on nominal cost are the instances.

(c) They are also given certain judicial powers. Settlement of disputes is subject to summary decision. They are empowered to recover the dues as arrears of land revenues without recourse to legal proceedings.

(d) They enjoy the benefit of local leadership and participation. Close knowledge and personal relationship between the lender and borrowers makes the supervision easy.

(e) Integration between credit and supply of inputs and services and marketing is existing in cooperative system. By virtue of this proper utilisation of loan and minimisation of possibility of diversion becomes possible. This makes the recovery policy easy.

(f) In the area where Central Cooperatives Banks are weak such integration between the cooperatives and the commercial banks will be an ideal situation.

Howover the scheme of linking cooperatives with commercial banks is criticised on the grounds that :—

(1) Flow of finance from commercial banks to cooperatives will affect the existing cooperative credit structure and Central Cooperative Banks.

(2) The cooperatives themselves are not free from defects—dormancy, inefficient management, heavy over-dues, vested interests, etc. are the glaring defects in cooperatives.

In regard to the first criticism, I am strongly of the view that there is hardly any validity. The commercial banks are supposed to supplement the efforts of cooperatives rather than shouldering the entire responsibility of agricultural finance. The primaries will continue to borrow from the Central Cooperative Banks and the deficit, if any, will be made up by the commercial banks.

As regards the second criticism, there is no denial that cooperatives have had defects. But these defects are merely functional. The cooperative credit structure is sufficiently strong and pervasive. With greater care taken in planning the defects may very well be removed and the structural strength may also be sufficiently promoted by the adequate flow of funds from the commercial units wherever they are needed.

Taking into careful consideration the above factors I feel like opining that for better supervision, easier collection arrangement and for effective democratic control by villagers of their own affairs through cooperative agencies dispensing of rural credit by commercial banks through cooperative will ultimately prove to be safer and more beneficial assuring sanctity of maintaining financial discipline in "advances" which is sine qua non of the commercial banking policy.

In order that the commercial banks, while making some invest-

(Continued on page 240)

Role of Banks in Economic Growth

Vasant Desai*

Economic growth depends upon the mobilisation of resources—men and material—and utilization of resources in a planned way. Among the financial institutions that have been mobilising savings and investment, commercial banks have created a nucleus in the process of economic growth. Commercial banks are both the repositories of the communities' savings and the purveyors of credit for economic activity. They provide to the saver a convenient avenue for investment of surplus funds and to the investor a source of finance. The importance of commercial bank in the process of economic development has been stressed from time to time by economists as well as progressive thinkers in the country. The political thinkers consider that institutions in the public sector serve the country far more creditably than in the private sector. This has resulted in the slow process of converting banks in the private sector to public sector. The central bank—the Reserve Bank of India—was nationalised in 1949, largely initiating the provisions of the Bank of England Act of 1948. The Act of 1949 also contains the provision, "which empowers the Central Government to give such directions to the Bank as it may, after consultation with the Governor, consider necessary in the public interest"—the same words as in the British Act of 1946. It was then considered that the nationalisation of the Central bank will lead to the implementation of a socialist monetary policy as a part of a general socialist policy aimed at establishing a welfare state. A review of twenty-one years of nationalisation of the Reserve Bank of India indicates that nationalisation is a change of form and not of substance as far as the monetary system of the country is concerned. Prof. Gyanchand opines, "The Reserve Bank, instead of being a source and instrument of a socialist monetary policy, is really a citadel of monetary orthodoxy and serious hindrance in the way of advance towards socialism."

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The political thinkers in India thought in 1955 that the economic malice is due to important financial institutions continued to be in the private sector. It is a convention with the socalled socialistic society. This dogma is created by political parties just to grab power of control from the present entrepreneuers and benefit thereby. As a result the Imperial Bank was nationalised and named State Bank of India. The task of the nationalised bank would be "to restore vitality to the rural economy, build up the future prosperity of the common man" and add "important strength to both agricultural and rural industry." The programme of its development was to be implemented as a part of comprehensive and determined programme of rural regeneration.

In pursuance of the Directive Principles the Planning Commission of India drew up Five Year Plans. Since then we have completed 24 years of planned development and on the threshold of the Fifth Plan. India is planning for a socialist pattern of society. The objectives are not only to increase production and achieve higher levels on the values of freedom and democracy. The objectives of the successive Five Year Plans have been summarised with a view to having an insight into the process of planned development during the quarter of a century.

I. First Plan (1951-1956)

i) To curb the inflationary situation and rectify food shortage.
ii) To increase the standard of living of the people through increase production.

II. Second Plan (1956-1961)

i) Rapid growth of the national economy.
ii) Rapid industrialisation with particular emphasis on development of basic and heavy industries.
iii) A large expansion of employment opportunities.
iv) Reduction of inequalities in income and wealth and a more even distribution of economic power.

III. Third Plan (1961-1966)

i) To secure an increase in national income of over 5 per cent per year, the patterns of investment being designed to sustain this rate of growth during subsequent plan periods.

ii) To achieve self-sufficiency in foodgrains and to increase agricultural production.
iii) To expand basic industries, and to establish machine-building capacity.
iv) To ensure substantial expansion in employment opportunities, and
v) To establish greater equality of opportunity and to bring about reduction in disparities in income.

IV. Fourth Plan (1969-1974)

i) To increase economic growth with stability.
ii) To bring greater economic self-reliance.
iii) To ensure safeguards against uncertainties.
iv) To ensure social justice to weaker sections and to prevent concentration of economic power.
v) To create more employment opportunities.

V. Fifth Plan (1974-1979)

i) Removal of poverty, and
ii) Attainment of economic self-reliance.

The importance of commercial banks in the process of economic development has been stressed from time to time by the economic thinkers and progressive bankers in the country. Commercial banks play a very important role in our economy, in fact, it is difficult to imagine how our economic system could function efficiently without many of their services. They are the heart of our financial structure, since they have the ability, in cooperation with the Reserve Bank of India, to add to the money supply of the nation and thus to create additional purchasing power. Banks lending, investing and related activities facilitate the economic processes of production, distribution and consumption. Economic development is a continuous process. Broadly, there are two schools of thought on the concept of economic development. According to some economic development is both the widening flow of production and the deepening flow of income. While, others consider that it is the presence of various facilities that induce further development. In fact, economic development is a socio-economic political puzzle as it exists within the limits set by the economic, social and political circumstances. Whether the forces of economic development are to be deliberately organized or left to the action of private enterprise, economic development is quite a weighty issue. Ragnar Nurkse advocated the idea of balanced growth as against the concept of rapid growth achieved through the action of individual entrepreneurs, producing recurrent waves of industrial progress.

The success of economic development depends essentially on the extent of mobilization of resources (both internal and external) and investment and on the operational efficiency and economic discipline displayed by the various segments of the economy. At a time when the prospects of foreign aid and assistance are dim, one has to rely upon the internal resources for economic development. It is, therefore rightly emphasised that the rate of investment to a large extent depends upon the mobilization of internal savings. The mobilized savings are put in the productive manner, so that the economy is on the move. Since Independence and more particularly since the commencement of the planned development the economy has moved rapidly forward in several directions.

Banks play a positive role in economic development of a country as repositories of community's savings and as purveyors of credit. Indian banking has aided the economic development during the last twenty-five years (1949-1974) in an effective way. The banking sector has shown remarkable responsiveness to the need of planned economy. It has brought about a considerable progress in its efforts at deposit mobilisation and have taken a number of measures in the recent past for accelerating the rate of growth of deposits. As a recourse to this the commercial banks opened a number of branches in urban, semi-urban and rural areas and have introduced a number of attractive schemes and free services to the customers to attract more deposits. Aggregate deposits of the commercial banks increased from Rs. 884 crores in 1950-51 to Rs. 5025 crores in 1969-70 and further to Rs. 12,362 crores at the end of June During the planned era (1951-1975) banks have mobilised deposits to the tune of Rs. 11,478 crores. This àccelerated rate of mobilisation of savings by banks is in keeping with the needs of economic development of the country. During the same period, the share of deposits to the national income has increased from 9.3 per cent to 22.4 per cent. As the economy gains further momentum under the aegis of the plans, the demand for funds for productive purposes will rise at a much faster rate.

Though agriculture contributes about 50 per cent of India's national income, the contribution which agricultural classes make to the overall savings in the economy does not bear any relationship either to their income or to their saving capacity. It has been estimated that rural households are responsible for saving only about 20 per cent of the total savings in the economy in the year 1974-75. The substantial investment in agriculture has resulted in a sizeable increase in the income of the agricultural classes, which income has to be siphoned off for the benefit of nationally important purposes. It is the duty of the commercial banks to gather the surplus funds that accrue to the agricultural classes and direct them for productive investment.

To achieve a high rate of economic growth sustained over a long period greater efforts will have to be made to increase agricultural and industrial production in our country and in this respect bank credit can play a significant role by influencing the types of commodities produced as well as the quantum of their output. The approach of credit has been rescinded from security to productivity. While providing credit bankers have to investigate the purposes for which funds are sought and have to satisfy themselves that the end-use of funds conforms to overall national objectives. The National Credit Council had indicated three sectors—agriculture, small-scale industries and exports as deserving priority treatment in the matter of bank credit. Subsequenly, the nationalised banks have been asked to cater, in a special way, to the credit needs of artisans, self-employed workers, retail traders and other weaker sections of the community. In fact, each one of these sectors encompasses a wide range of activities and bankers have to be discreet in allocating credit for the various purposes. Special consideration should be given to the requirements of small units which may not be getting adequate credit from other institutional sources, but which at the same time deserve support.

Mobilisation of deposits in rural areas is significant and vital factor in the economic development of the country. The task is stupendous and challenging for which a complete change of reorientation of attitudes is called for. Apart from managerial, personnel and operational problems, rural areas call for special treatments and incentives in the initial years.

One of the main tasks in rural areas is to inculcate among people the habit of thrift and at the same time curtail their extravagance in conspicuous consumption. The offices of the proposed intermediate financial agency have to do promotional and educative work extolling the virtues of saving and canalising such savings in financial assets rather then in physical assets. Rural preference for precious metals emanates from their ready convertibility into cash for meeting several emergency needs of unproductive character.

Pattern of saving and fixed deposits may be adjusted to suit local conditions and on some categories lottery benefits may be introduced in lieu of fixed annual interest to harness peoples' natural instinct for speculation. In view of diversity of local customs, usages, languages as also of considerable variations in the level of regional development, the pattern of organisation of the proposed financial intermediary has to be so devised as to take cognisance of their regional diversities.

At present rural deposit constitutes only 7.4% of total deposits of the scheduled commercial banks. Mobilization of deposits in rural areas is a signicant and vital factor in the economic development of the country. The task is stupendous and challenging for which a complete change of reorientation of attitudes is called for. Apart from managerial, personnel and operational problems, rural areas call for a special treatment and incentives in the initial years.

The banks have taken up 'retail' banking in a big way and have made significant inroads into the new markets; its aggregate lendings to agriculture, small industry and other indigent borrowers belonging to the weaker sections of the community, covering nearly a lakh of accounts, amounted to Rs. 2200 crores in June 1975 and formed about a quarter of their total credit portfolio. The banks have been making every endeavour both on their own and in partnership with Government sponsored development organisations and associations of private trade and industry to promote the growth of entrepreneurship and self-employment ventures in the country, by granting credit on easy terms.

In the context of the continuing paucity of entrepreneurial talent and scarcity of investible resources, commercial banks in India have increasingly been called upon to play a more positive and dynamic role in igniting the forces of innovation and investment and thus help foster and broad-base new entrepreneurship in the country. Development of entrepreneurship—one of the social responsibilities enjoined on the banks—is a complex process. The functions of this development banking include, in addition to the traditional function of providing term loans and working capital, the formulation of project ideas, identification of specific projects suitable to local conditions, location of and inducing new entrepreneurs to take up these well formulated projects and provison of a package of counselling services including technical and managerial guidance.

Over the past quinquennium or so, public sector banks, have been experimenting with a wide range of special schemes designed to "tailor" credit to the specific requirements of individual cases And these include schemes for financing engineers, doctors, craftmen and other technically qualified entrepreneurs, apart from several other schemes for promoing self-employment among weaker sections of the community such as newspaper vendors, cobblers, hawkers, handloom weavers and also disabled defence personnel. In case of schemes for entrepreneurial development all that banks require is a worthwhile project, technically feasible and economically viable coupled with technical competence and ability to manage the enterprise, apart from the character and integrity factor. And, credit from banks is no problem even where the entrepreneur is not in a position to bring in the normal owner's equity. There are quite a few projects of new entrepreneurs where the banks have, in fact, granted 100% finance.

Bank's experience in promoting entrepreneurship has been that if all the multi-dimensional aspects of this process were to be handled by the banks alone, the progress would be tardy, with the added disadvantage of duplication of organisational and technical machinery in the banks with its higher cost implications. Accordingly, the banks have been endeavouring wherever possible, to operate in collaboration with the State development agencies and the various organisations representing industry, commerce and trade. Various schemes are designed by banks to help entrepreneurs to exploit the opportunities in the ancillary industrial sector. The clinic has already compiled an exhaustive dossier from which a prospective entrepreneur can get information on components and parts. Having chosen the line of manufacture, the scheme would put the prospective entrepreneur in touch with the large industrial unit which is in need of that particular item. The large industrial unit will help and guide the entrepreneur in—

(i) the preparation of project report ; (ii) arrange for 'in-plant training', if necessary ; (iii) commissionlng of the project ; (iv) solving technical problems in the process of manufacture, and (v) standardising the quality of the product and assuring a minimum purchase order for a period of time. The entreprenured clinic also help the enpre-preneur in securing registration, selection of plant and machinery, location of sources of supply of raw-materials and advice and guidance in technical matters, besides arranging the full financial assistance from the banks on attractive terms. A distinguishing feature of these schemes is the linking of the prospective entrepreneur to an operating industrialist who will act as a 'foster-father' for all his needs. Side by side, the banks have also been making vigorous and sustained efforts in discharging its social responsibilities in other sectors as well.

The banks have simultaneously been aggressive in promoting exports which it does through a package of wide ranging services. The small industrial sector has also responded to the banks' efforts and has made a contribution, though small, to the export effort. Additionally, the banks have increasingly involved themselves in financing public food procurement agencies, quasi-government bodies and other public undertakings. A remarkable feature of the banks' performance is that the fresh credit deployed into these priority and preferred sectors roughly accounted for over three-fifths of the incremental loanable resources of the banks during the post-nationalisation period. And, as a result, the share of these sectors in the banks' credit portfolio jumped up from 27.7 per cent in July 1969 to 42.0 per cent at end-June 1975.

While thus breaking new grounds on the socio-economic field where the cost factor is relatively higher, the banks have not ignored their overall business—domestic as well as overseas. The overseas offices and the subsidiaries have recorded a significant improvement in the magnitude of business and operations. The banks are also gradually changing the character of their overseas operations from multinational to international banking. Domestically, the banks have made good progress in their deposits and advances as well as in their ancillary business activity, with the result that they have managed to improve steadily their operating results. All in all, the banks are in a much stronger position in terms of financial and organisational strength today to enable it to meet the emerging challenges that lie ahead.

The Public Debt Controversy : A Rejoinder

Gopal Krishnan*

The paper of Mr. K. T. Krishnan on the Public Debt Controversy,[1] though interesting, bases the main arguments on a number of over-simplified and fallacious assumptions, which make the major inferences misleading, in spite of the great pains taken by him to explain in detail the basic issues involved.

The substantial content of his paper is as follows : (1) Servicing of debt does not involve a burden because interest payment whether it is by government or by a private capitalist (in the case of corporate bonds) is to be finally borne by the people (consumer in the case of capitalist) ; and, (2) there is no burden as a result of public debt if one views the debt from the viewpoint of country as an aggregate entity, because in such a case only a transfer takes place within a group.

The comparison of corporate bond with government securities in relation to servicing of the debt (bond) is erroneous in the sense that the private capitalist cannot transfer entirely to the consumer anything in the pretext of increased cost in all cases, now that he has to service the debts, whereas the government can do so on the citizens by way of taxes. This is because in the case of private capitalist what governs his decision whether or not to increase the price is the state of elasticity of his demand curve. Even a monopolist does not have much elbow-room in all cases ; leave alone the case of other types of competition.

For example, let the demand function for a monopolist be F(p), then his total revenue is equal to p.F(p). Since the debt servicing is not dependent on the quantity produced, the cost in this connection

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1. K. T. Krishnan, "The Public Debt Controversy," 'Economic Affairs,' 21, 4, April, 1976 129-134.

is a fixed cost which is equal to K per annum and the variable cost is k. The monopolist's net revenue equals now :

$$(p-k).\ F(p)-K$$

which is maximum when the first derivative with respect to p becomes zero :

$$(p-k)\ F'(p)+F(p)=0$$

which shows that fixed cost does not have any influence in the determination of the price of our monopolist.[2]

Cournot also demonstrated mathematically by examining different types of functions in the case of monopolist and concluded that :

> "...According to the form of function F(p) or according to the law of demand, an increase in the cost of production augments the price of a commodity, for which there exists a monopoly, *sometimes much more and sometimes much less than the cost...*" (Emphasis added).

He says further :

> "It results from this that if the new cost were not met by the producer himself, but by the consumer, or by an intermediate agent, who would be reimbursed by the consumer, this increase in cost, which would always make the article dearer for the consumer, and which would always diminish the net income of the producer might according to circumstances, produce an advance or a decline in the price paid to the producer."

And finally :

> "...This...is only applicable in the case where the producer can meet the demand which gives him the greatest net return and reduce his price as much as is necessary to attain this maximum return. In other cases, he will produce all he can, before as well as after the change in the cost whether of production or of transmission and the *cost price to the consumer will remain invariable*, because in a condition of equilibrium, and on a large scale, there cannot be two different prices for the same quantity marketed. *The increase of cost, therefore, from whatever source must finally be wholly borne by the producer.*"[3] (Emphasis added).

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[2] Wicksell explains the effect of taxation on monopoly similarly. For example, see, Knut Wicksell, in 'Reading in the Economics of Taxation,' Homewood, III, Richard D. Irwin, Inc. 1959, 256-257.

[3] Augustin Cournot, "Of Monopoly," in 'Researches into the Mathematical Principles of the Theory of Wealth,' New York : Macmilian, 1897, 1929,

A capitalist knows this and when he goes to the market for debt finance what governs his decision is the state of his demand function, the size of the firm and the state of his cost curve. That is the reason why he takes immense care in deciding about the structure of capital of his firm.

Conversely, now granting that in certain cases increase in prices is possible without radically reducing the demand, another set of questions needs to be looked into. When consumer purchases goods, he equates the utility that he derives from purchase of goods to holding money and arrives at an equilibrium when $\frac{u_1}{p_1}=\frac{u_2}{p_2}=\ldots\ldots\frac{u_n}{p_n}=u'$ (where u' is the marginal utility of money) and stops purchasing at that point where his utility and consequently satisfaction is maximum. At such a point he may even be enjoying a surplus and therefore in this case there is no burden. But in the case of public goods, the story is different, in which case the consumer does not have an opportunity to equate his utility in two situations of holding money and purchasing of public goods. Depending upon the situation, he could have a burden if the utility (and consequently satisfaction) that he derives from public good is less than that of holding money, or in other words, if the cost of that particular good is greater (that is, $\frac{u_1}{p_1}<u'$). On the other hand, he (the consumer) may have a surplus, if the satisfaction is greater than the cost (taxes here), that he has to pay which shows that the case is neither so simple nor too general as stated in his paper.

It is said that increased consumption of public goods *compensates* the reduction in the consumption of private goods. Here one can say only that now more of public goods are available (if available) in the place of private goods. To say that it compensates is too much, for it involves value judgement.

Now coming back to the basic issue of burden as a result of public debt, his statement that if we take a country as an aggregate entity, there is no burden involved because only a transfer (diversion) takes place, also does not hold water in all cases. In this connection it is worthwhile to quote Ratchford :

> "The strongest case for the proposition that domestic debt is not an economic burden would be one in which the bonds are held by tax payers in the same proportion as they pay taxes. It is usually argued that in such cases taxpayers are merely

> transferring money from one pocket to another and that the transfer can have no economic significanc."[4]

But we know that such a situation as the taxpayers holding bonds in proportion to the tax that they pay does not exist, and therefore in the absence of such a situation the transfer may have economic significance especially because "the aggregate economic entity" is not a homogeneous group. Even if the tax load is distributed according to the ownership of debt, it could have an economic burden, as suggested by Ruggles, who says :

> "It is very doubtful whether or not individuals would realize that part of their taxes was being returned to them in the form of interest on their bonds. Even if they realized that this was true, it is doubtful whether or not they would find their taxes less burdensome for that reason, since most individuals, who give any consideration at all to the matter when they buy government bonds, expect that the interest they will receive from their bonds will exceed the taxes they must pay for debt service."[5]

But whether there is burden or not of course depends upon whether the disadvantages outweigh the advantages. Mr. Krishnan himself agrees that individuals may have loss or gain out of a particular activity. Since the burden of a country is the aggregate burden of the individuals, if the sum total of the loss is greater than the total gain of the individual then there is a burden to the present as well as to the future generations.

If a government resorts to progressive taxation to service and finally repay the debt, it may have adverse effect on investment and consequently on the national income On the other hand, if it resorts to find revenue through increased indirect taxation (as it takes place in the case of most of the LDCs), then the welfare loss would be very heavy if the benefits gained is less than the cost. A malevolent government, if it wants, can make such a transfer in favour of a few elites by not only taxing the present generation but also the future

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reprinted in 'Readings in the Economics of Taxation,' Homewood, III. : Richard D. Irwin, Inc., 1959, pp. 240-255.

[4] B. U. Katchford, "The Burden of Domestic Debt," 'American Economic Review,' September 1942, reprinted in 'Readings in Fiscal Policy,' Homewood, III. : Richard D. Irwin, Inc, 1955, 451-567.

[5] C. G. Ruggles, "Social and Economic Implication of the National Debt," quoted in Ratchsord, Ibid., p. 456.

generation by creation of future taxation and that it would be politically insane to tax the present generation beyond a certain level. The danger of such a thing happening in LDCs is very real especially because in most of these countries the governments are under the control of either the military or the dictators from the elite group.

And finally, it is erroneous to generalize that public debt has an economic burden ; also that it does not have a burden. Each case needs to be looked into specifically to find out whether this a burden or not.

(Continued from page 227)

ment to the ultimate borrowers through the cooperative agencies may got an opportunity of correctly guiding the cooperative agencies on sound banking lines, a structural change in the cooperative administration may be recommended. As a first step to this, a powerful advisory committee on zonal basis may be constituted with the representatives of the village cooperative banks, a representative of the lending commercial bank or its branch, a respresentative of the Cooperatives Central Bank and Area Assistant Registar of Cooperative Societies or his nominee. This way it may be reasonably expected that the loaning will be, in most cases, need-based and production oriented with the result that recovery will be smooth and the main object of boosting up agricultural production with concomitant improvement in the economic condition of the farmers may be achieved.

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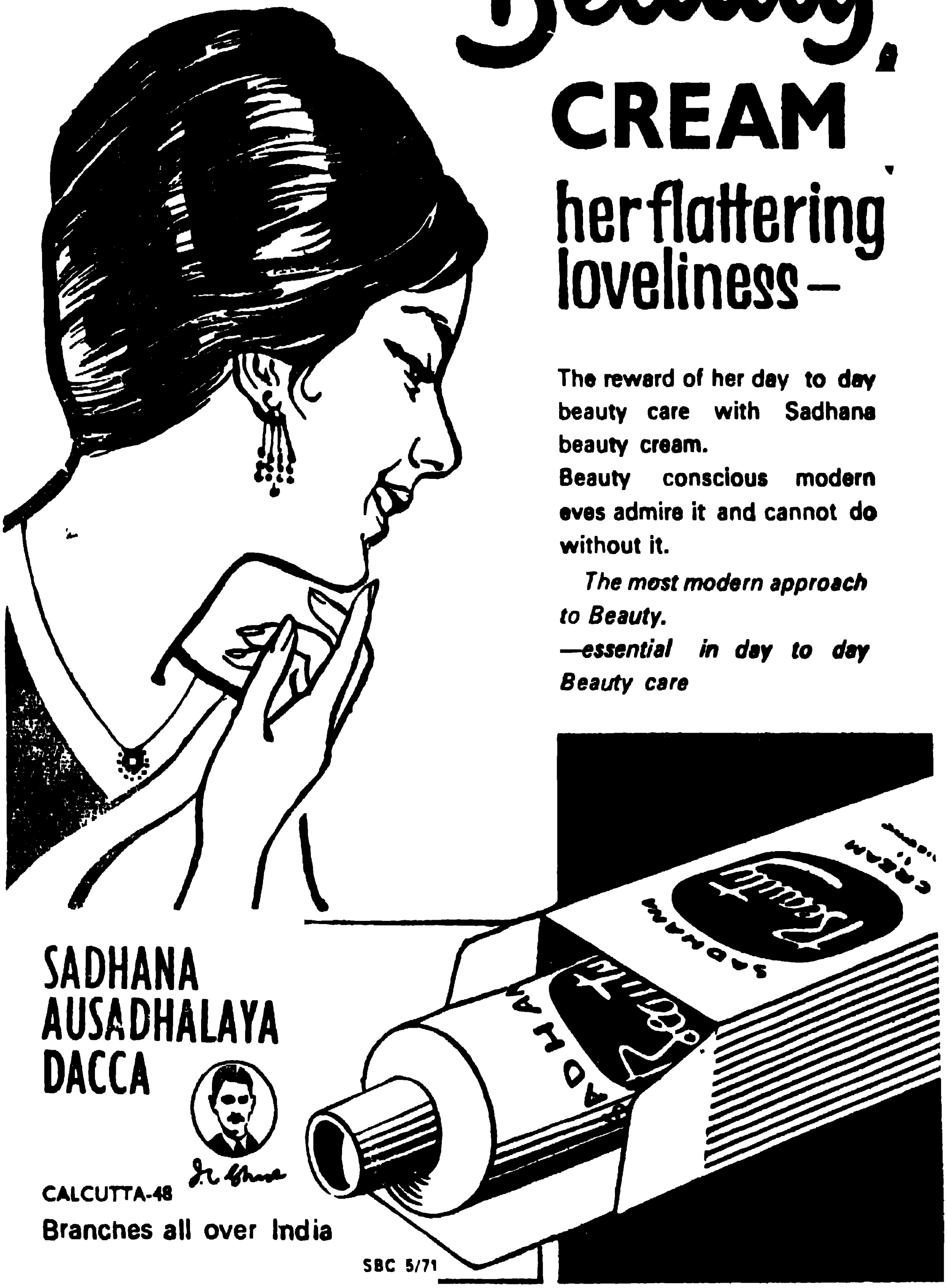

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Contents

Editorial

240-E Soviet Value Diminished

Articles

Basudev Sahoo and U. C. Nayak
240-G Effects of Wage Changes on Prices

D. Audikesavulu Naidu
241 Nation-Wide Compulsory Sterilization and Its Practicability in Less Advantaged States

R. P. Singh and Sankatha Prasad
255 Regional Disparities in Uttar Pradesh

ECONOMIC AFFAIRS

Volume 21 July 1976 No. 7

Soviet Value Diminished

In a two-day conference of 28 communist and workers' parties of Europe held in East Berlin on 29-30th June this year some very historical decisions have been taken which had earlier met the stiffest resistance of the Soviet Union. 'Internationalism' had been used by Stalin down his present successors to perpetuate Soviet Union's exclusive leadership in the communist world. Yogoslavia was the first communist country to protest against this hegemony and eventually to part with the Soviet Union. It survived all sorts of pressures of the Soviet Union by its conviction and tenacity and innovation of the logic and theory of non-alignment. At that time the angry Soviet Union had in its side no less a country than the communist China. But very soon China ruptured with the Soviet Union on many points, of which one was the ideological content of 'social imperialism' of the latter. In the meantime Romania and Albania went off the tight-rope of the Soviet Union. Off the communist regimes the communist parties of Italy and France openly challenged the authority of the Soviet Union to mould and guide the destiny of their parties and the communist world. The silent but sympathetic spectators were the 'pro'-Soviet Union satellites of the Eastern Europe. The Soviet Union felt the world communist pulse and had to make a choice between allowing some important communist countries and parties to be more aligned with China and making concessions on its exclusive leadership. It preferred the latter. For to it politics has no prestige.

The Soviet Union may not be happy over the decisions of the conference. But undoubted the independence of communist leadership will be paying for the communist advance through close understanding of the communist parties. And not in far distance China may be one of the parties of this understanding. Pertinently, what would be the common objectives of their 'democratic' unity ? The conference spelled out the objectives in terms of peace, democracy and social progress and establishment of a new international economic order envisaged by the movement of non-aligned countries and the developing and socialist countries.

The objectives are omnibus and hence opportunist in character. Induction of 'non-aligned countries' (to appease Yugoslavia) and the 'developing and socialist countries' (to allure the non-entities) may have some meaning but it carries no meaning to extol the undefined and much debated concept, 'democracy'. The communist parties may decide the issue of leadership once-for-all but it seems difficult, if not impossible, for them to come to a common concept of 'democracy' which is acceptable both to the 'Marxism-Leninism' (if any substance is yet left of it) and to the electorate of the democratic countries (e.g., France and Italy). Besides, the concept is also under close critical observations in the communist regimes. By and large most of the leading contemporary communists are hard in accepting a repressive society even in the form and name of 'proletariat dictatorship'. Another pinch is 'nationalism' now rapidly growing in each communist country, which is bound to conflict with any form of 'internationalism' when the question will arise which of them will prevail. Nationalism is nearer to Western than to communist form of democracy. And the atomistic form of nationalism is individualism. This may threaten the communist strategy to dominate the world.

The truth is the 'objectives laws' refuse to accept the Soviet Union's ideology analysis. Its steadfastness to its 'logic' has resulted in the dispersion of internationalism. China and others apart, what had happened in Czechoslovakia and Hungary in recent past and the 'rice riot', for the second time, in Poland are all the inner pointers that they want to go on their own ways free of the Soviet Union's interferences in their affairs. Unfortunately, some of the 'developing and socialist' countries have yet to learn many things from the present-day learnings of the fragmented communist world.

BANGLADESH RURAL DEVELOPMENT

As a result of the IDA credit for a rural development project, approved in May 1976, 900,000 people of Bangladesh will increase their annual income from $70 to $90, upon the project's full development in 1985. Presently only 25% of the population in the area is estimated to own more than 5 acres of land and to earn more than subsistence level wages. Landless laborers and the underemployed marginal farmers will benefit from a 25% increase in agricultural employment opportunities. One of the most important goals of the project will be to reduce the domination of rural institutions by the more prosperous and politically influential farmers and to make farm credits and agricultural inputs (fertilizer, pumps, tubewells, insecticides and fuel) available to the "small farmers" through the cooperative system.

Effects of Wage Changes on Prices

Basudev Sahoo* and **U. C. Nayak****

Wage increase has often been criticised for its inflationary effect. It is therefore necessary to analyse in detail to what extent and in what way a change in wage affects a price change through its influence on the cost of production

Determination of the price of a product or prices in an economy undergoes an arduous process of market mechanism characterised by the interaction of total forces of supply and demand. While a host of factors including wage change influence demand, it is wage-change that comes out prominently as a factor affecting supply price. The paper attempts to analyse the effect of wage-change on price under three heads.

1. Effect of wage on cost.
2. Spread of cost effect.
3. Effect of cost on price.

Effect of Wage on Cost

Cost of production is the outcome of an interplay of many forces that constantly change in the process of managment seeking the improvement of profits. They are : volume of production, prices paid to the input factors, capacity provided, technological methods, managerial policies and effectiveness of cost control.[1] However, the prices paid to the input factors, more particularly to labour, is supposed to have a significant influence on the cost condition of a firm.

Suppose an increase in wages has been effected in a firm or an industry. Now the degree of transmission of wage rise into the increase in unit cost of production will depend on (a) the firm's ability to substitute other factors for labour, (b) change in prices of

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* Pattamundei College, Cuttack.

[1] Gerald R. Crowning Shield, Principles and Managerial Applications. Boston : Houghton Mifflen Company, 1962, P. 404.

other factors with change in demand, (c) alteration in capital cost due to increased capital intensity, and (d) possibility of a change in rate of production in the firm.[2]

A firm's ability to substitute other factors depends upon the relative prices and availability of other factors and the technique of production determining the capital coefficient of production. If an industry is labour intensive, where the scope for substitution of capital for labour is narrow, and the economy is short of capital so that the price of capital equipment is disproportionately high compared with the revised labour price, then replacement of labour by other factors will be limited. Change in demand for other factors is sure to raise their prices in the short-run. In the long-run, with possible expansion of supply due to increased production at diminishing cost, the prices of the substitutes may not rise ; rather it may fall. Increased capital intensity to replace labour may result in a rise in capital cost per unit of product if production is not expanded sufficiently. The possibility of a change in scale of production is governed by the extent of market and elasticity of demand for the product.

In an advanced economy, substitution of capital for labour may not be costlier as capital is abundantly available at relatively lower prices. The possibility of substituting capital is greater as the economy operates at a high level of technology which makes industrial operation amenable to the use of new techniques. Further, access to the extended market through price and non-price competitions by firm is a possibility in this economy. The conditions prevailing in a backward economy are quite the reverse. Expensiveness of capital contrasted with the cheapness of labour makes the substitution of capital for labour often uneconomical. Changeover from the prevailing technique of production to another of labour-saving nature is impeded by the shortage of the right type of machinery and tools and skilled operators in the short-run. Expansion of market which makes large scale production and capital-intensive method of production profitable is more difficult and more time-taking due to the existence of transport difficulties, large subsistence and non-monetised sector, poverty, ignorance and low standard of consumption of the mass. Thus, while wage increase is probably offset by the increased efficiency of production flowing from

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2. See Friedrick Lutz, 'Inflation in Europe' 'South African Journal', XXV, December 1937, P. 235.

(Continued on page 267)

Nation-wide Compulsory Sterilization and Its Practicability in Less Advantaged States

D. Audikesavulu Naidu*

In 1952, India was the only developing country that had official policy and programme to lower fertility. Of the remaining 33 developing countries which are now having official policies to reduce population growth rate have initiated their programmes between 1960 and 1974 only.[1]

The Indian programme aimes at promoting voluntary acceptance of contraceptive methods through the process of education and motivation. When we assess the performance of the programme, it has made only marginal impact on aggregate fertility. About 15% of the reproductive age couples are protected against risk of conception and an estimated of 13 million births have been averted by the programme till 1972-73. Thus nearly two decades of programme was able to prevent an annual addition of 13 million people only.

If the present rate of growth of numbers is left unchecked, India's population is expected to cross one billion mark by the turn of this century. Thus, with the lessons we have learnt and with the experience we have gained in the past, it is inevitable to have some drastic steps to solve this demographic problem. Paul Demeny rightly emphasized that "when the natural pressures of economic and social development will not do, and when free supplying of contraceptives elicits no adequate response, society will have to find other means to solve its demographic problems, relying on disincentives, moral suasion, or command".[2]

After having failed to influence the irresponsible reproductive behaviour of the Indian masses, the Maharashtra State has attempted to take a pioneering step to make sterilisation compulsory by legislation. While referring the Compulsory Sterilisation Bill to the Select

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Committee, Mr. K. M. Patil, Minister for Public Health, said that "even after the good work that the State had been doing in the field of Family Planning for the last eight years, the State's population growth had not fallen. Such a measure was necessary to check the growth rate so that the benefits of economic progress would reach the poorer people".[3] Some other States like Punjab, Haryana, Andhra Pradesh, Rajasthan, etc. are also contemplating such legislation.

The Indian States are not uniform in their socio-economic and demographic characteristics. There are wide variations in the fertility rates, mortality rates, density of population, working force participation in compulsory birth-control. Before going for such legislation, some hurdles have to be surmounted by them.

Relationship Between Institutional Setting, Programme Strength and Family Planning Performance

Freedman and Berelson have analysed the performance of family planning programme in sixteen Indian States, classifying them simultaneously by social setting and programmatic effort. (See Table-1). Their index of social setting is based on per capita income, literacy and rural infant mortality, and the index of programme effort is based on medical, para-medical and technical staff of family planning department.[4]

They inferred some relationship between modernisation status, programmatic effort and programme performance. It may be observed from Table-1, in the States of Punjab, Haryana and Kerala with high social setting and strong programme effort, the mean percentage of couples protected by family planning in 1972-73 was 21.1. On the other hand, the corresponding figure for the States of Uttar Pradesh and Rajashthan with low social setting and weak programme effort was 7.3. Thus variation in performance indicates the variations in setting and programme input. Srikantan also concluded that "socio-economic indicators are just as important as program inputs in accounting for differential performance of programs in the states of India. Moreover, his analysis estimates that the social setting variables operate not only to create demand and motivation at an individual level... but also to affect the infrastructure and the ability to organise and administer a large-scale program....... Thus, there is less chance of a strong program in a low setting".[5] Similarly, even a strong compulsory sterilisation programme may not do well in a low institutional setting.

Table 1

Percentage of couples protected in 1972-73 in Indian States, by social setting and programme effort

Programme effort	Social Setting High		Middle		Low	
Strong	Punjab (and Haryana)	23.0	Orissa	17.2		
	Kerala	19.2	Andhra Pradesh	16.6		
	Mean	21.1	Mysore	11.6		
			Mean	15.1		
Moderate	Maharashtra	23.4			Madhya Pradesh	13.5
	Gujrat	17.9			Bihar	7.8
	Tamil Nadu	17.7				
	Mean	19.7			Mean	10.7
Weak	West Bengal	11.6	Assam	8.1	Uttar Pradesh	7.7
			Jammu & Kashmir	7.6	Rajasthan	6.8
	Mean	11.6	Mean	7.9	Mean	7.3

Source : Ronald Freedman and Barnard Berelson. "The Record . . . ." (See reference 4).

In the light of above facts, the less advantaged States (Rajasthan, Uttar Pradesh, Bihar, Madhya Pradesh, Jammu & Kashmir and Assam) may not be fascinated by the more advantaged States while legislating for compulsory sterilisation, at least for the time being. They may seek some other potent alternatives until they achieve relative advantageous position in terms of setting and programme input.

Infant Mortality

Although India has substantially reduced the death rate from 47 per thousand in 1921 to 15.5 in 1973, the infant mortality rate still stood at 131 per thousand live births in 1972. Table-2, shows that the infant mortality rate varied from 56 (per 1000 live births) in Kerala to 165 in Uttar Pradesh during 1970. Whereas for Sweden the figure was 11 per thousand live births during the same year.

Table 2

Infant Mortality Rates by States : 1970

State	Rural	Urban	State	Rural	Urban
Uttar Pradesh	165.4	110.2	West Bengal	113.4	61.0
Gujrat	159.2	131.0	Bihar	106 1	75.5
Madhya Pradesh	151.7	113.1	Punjab	103.7	86.5
Himachal Pradesh	151.3	75.5	Maharashtra	102.5	84.3
Rajasthan	148.5	104.5	Karnataka	101.0	73.2
Orissa	139.8	103.3	Jammu & Kashmir	93.1	45.0
Assam (Incl. Meghalaya)	138.4	78.0	Haryana	82.1	61.4
Tamil Nadu	133.9	89.9	Kerala	55.9	39.7
Andhra Pradesh	122.2	79.1	India	136.4	89.9

Source : Sample Registration Bulletin, Vol. XI, No. 4. October, 1975.

William Rich has observed that "where mortality rates were very high, parents generally had as many children as possible".[6] A number of studies have demonstrated the same relationship between child survival rate and family size. Hasty attempt to legislate for compulsory sterilisation in the States with high infant mortality rate will bring distress to the rural parents. Thus one of the pre-conditions to enact such a legislation is to bring down the infant mortality rate to alleviate the fears of rural parents.

Rural Health and Family Planning Infrastructure

Primary Health Centres are the primary sources to meet the health needs of rural population. In most of the States, at least the existing PHCs are not adequately manned by medical and para-medical personnel. As it may be seen in Table-3, still around 40% of the PHCs have only one doctor.

Table 3

State-wise Distribution of Primary Health Centres (March 1974)

State	Percentage of PHCs			
	Without Doctor	With one Doctor	With two Doctors	% of couples effectively protected due to sterilisation
(1)	(2)	(3)	(4)	(5)
Andhra Pradesh	—	0.7	99.3	17.1
Assam	—	72.3	27.7	8.3
Bihar	1.2	29.0	69.8	5.8

(1)	(2)	(3)	(4)	(5)
Gujrat	2.0	30.7	67.3	18.1
Haryana	7.9	28.0	64.1	14.2
Himachal Pradesh	12.6	72.0	16.0	7.5
Jammu & Kashmir	—	16.9	83.1	6.1
Karnataka	1.9	22.6	75.5	10.9
Kerala	—	—	100.0	18.2
Madhya Pradesh	—	5.0	95.0	11.2
Maharashtra	—	7.2	92.8	23.2
Orissa	—	85.0	15.0	14.5
Punjab	1.6	45.2	53.2	12.6
Rajasthan	—	62.0	38.0	5.8
Tamil Nadu	—	1.3	98.7	18.2
Uttar Pradesh	0.1	97.0	2.9	5.8
West Bengal	—	70.3	29.7	10.3
All India	0.8	41.2	58.0	12.4

Source : Statistical Profile of Children and Youth in India, UNICEF, New Delhi, November, 1975.

This situation is more precarious in some of the States like Uttar Pradesh, Orissa, Assam, Himachal Pradesh and West Bengal where more than 70% of the PHCs did not have two doctors. On the other hand, among the States like Kerala. Andhra Pradesh, Tamil Nadu, Maharashtra etc. more than 90% of the PHCs have two doctors and as a result the performance of sterilisations is well above the Indian average. Keeping this shortage in view, Dr. Karan Singh, Union Health and Family Planning Minister, stated that "the administrative and medical infrastructure in many parts of the country was not adequate to cope with the vast implications of nation-wide compulsory sterilisation and therefore the centre did not intend to bring in legislation for this at least for the time being".[7]

The main constraint inhibiting the expansion of the programme is the shortages of trained personnel at all levels. Present manpower position is not up to the mark as recommended by the Health Survey and Planning Committee of Medical and Para-medical personnel.

The Committee recommended 3,500, 5,000 and 5,000 population per doctor, nurse and ANM. Inconsistently the doctor, nurse and ANM ratios to population are 1 : 4366, 1 : 6922 and 1 : 11398 respectively in 1972-73. Even the recommended ratios are much higher in India when compared to the ratios of Taiwan, Sri Lanka and Korea consequently the infant mortality rate is very low in these three countries. (See Table-5).

Table 4

Availability and Requirements Recommended by the Health Survey and Planning Committee of Medical and Para-medical Personnel

Category	Recommended ratio to population	Requirement	Actual position 1972-73	Ratio to Population 1972-73
Doctors	1 : 3,500	170,870	130,530	4,366
Nurses	1 : 5,000	120,000	82,330	6,922
Auxiliary Nurse and Midwives	1 : 5,000	120,000	50,000	11,398
Sanitary Inspectors	1 : 10,000	59,000	30,060	18,359

Source : Ministry of Health and Family Planning Report 1972-73. Govt. of India (Statistical Profile of Children and Youth in India, UNICEF, New Delhi, Sept. 1973).

Table 5

Levels of Health Services and Infant Mortality Rate in Four Developing Countries

Country	Population (in thousands)			Infant Mortality Rate 1970-75 (per thousand live births)
	per physician	per nurse	per midwife	
1. India (1971)	6.0	8.0	10.0	139
2. Sri Lanka (1972)	4.1	2.0	3.7	35
3. Taiwan (1972)	1.3	1.5	1.9	28
4. Korea (1971)	2.0	2.0	5.0	60

Source : Based on D. A. Naidu, 'World Consensus at Bucharest and India's Population Control Programme", Economic Affairs, Vol, 21, No. 3, March 1976 ; p. 92.

A study on rural health behaviour by Dr. D. Banerji of Jawaharlal Nehru University revealed that "there is a considerable unmet felt-need for curative, preventive and family planning services among rural populations in India".[8] Compulsory sterilisation programme stipulates infrastructural fulfilment in medical, health and family planning fronts.

Method Availability and Programme Performance

W. Parker Mauldin has noted that "the availability of a variety of fertility control methods may be a critical factor in reducing fertility".[9] Twenty three years programme of birth prevention in India is unable to provide all the five methods of fertility control: Orals, IUDs, conventionals, sterilisations and abortions. A comparative study of the selected countries with their available fertility control methods reveals that (see Table-6) crude birth rate has fallen appreciably in the countries, where all methods are generally available. In China and South Korea all the five methods are generally available. The resultant decline in crude birth rates of these two countries was higher as campared to the decline in Egypt and Sri Lanka with general availability of three methods only. In India, on the other hand, only sterilisation and conventionals are generally available.

Table 6

Availability of Fertility Control Methods and Changes in Crude Birth Rates in Selected Countries Between 1960 and 1973

Country	Availability of Methods*					Crude Birth Rate		
	Orals	IUDs	Conventionals	Sterilisation	Legal abortion	1960	1973	% decline in CBR 1960-73
China	A	A	A	A	A	—	33	—
South Korea	A	A	A	A	A	45	28	37
Singapore	A	A	A	A	B	39	22	43
Taiwan	A	A	A	A	B	40	24	39
Egypt	A	A	A	B	C	43	34-36	19
Sri Lanka	A	A	A	B	C	37	30	19
Tunisia	A	A	B	B	B	44	38	13
India	B	B	A	A	B	42	37-39	10
Kenya	B	B	B	B	C	50	50	—
Iran	A	B	B	C	C	48	48	—

* A= General Availability, B=Limited availability C=Not available.

Source: Based on W. Parker Mauldin, "Family Planning Programs...". see reference 1, p. 34.

Recently, the Orals (1974) and legal abortions (1972) are made available in a limited scale. IUD insertions are limited because of the shortage of lady doctors at PHCs and reported side-effects of IUD. Of the 15% Indian couples currently protected, 11.5% are due to sterilisations, 1.3% due to IUDs and 2.3% due to conventional contraceptives. In other words, for the total couples protected, sterilisations contributed 76.5% as against 8.7% of IUD and 14.8% of conventionals. Thus Indian programme is relying primarily on sterilisation.

It is also feared that the compulsory sterilisation programme may tend to slow down the tempo of the IUD and conventional contraceptive performance in the States like Punjab and Haryana and Union Territories like Chandigarh and Delhi. Because the law may compel the couples with three children to undergo sterilisation even though they have decided to use other methods of family planning.

Table 7

States and Union Territories with 20% or more Couples Protected (Up to September 1974)

State/Union Territory	Percentage of couples currently protected			Percentage of Couples Protected
	Sterilisation	IUD	C. C. Users	
Maharashtra	22.0(91 6)	0.6(2.6)	1,4(5.8)	24.0
Punjab	11.7(51.1)	5.0(21 8)	6.2(27.1)	22.9
Haryana	11.9(55.6)	4.6(21.5)	4.9(22.9)	21,4
Kerala	17.1(84.6)	2.5(12.4)	0.6(3.0)	20.2
Chandigarh	10 5(24 4)	7,4(17.3)	25.1(58.3)	43.0
Delhi	10.2(30.5)	3.4(10.2)	19.8(59.3)	33.4
Pondichery	15.6(71.8)	4.9(22.6)	1 2(5.6)	21.7
All India	11.4(76.5)	1.3(8.7)	2.2(14.8)	14.9

N.B.: Figures in perenthesis denote the percentage contribution made by each method to the total couples protected.

Sources: Based on A. Chandrasekhar, "Demographic Situation in India", National Conference on Population, Decem. 6-8, 1974; NIFP Report Series No. 15, p. 19.

The above Table shows that in the States of Punjab and Haryana more than 44% of the Total protected couples have been protected due to IUD and conventionals. The corresponding figures for Chandigarh and Delhi are 75% and 70% respectively. Thus care should be taken to avert such tendency while implementing compulsory sterilisation programme and steps may be taken to provide a wide range of choice of fertility control methods.

Child Labour Force Participation, Old Age Security and Fertility.

Harman has noted that "......the strongest confirmation of the determinants of family size is displayed by the positive coefficients for child labour force participation, indicating that where opportunities exist for children to help provide support for the family, the parents desire a larger family".[10] Although the Employment of Children Act 1938 and the Factories Act 1948 prohibit employment of children below 14 years of age, still the child workers in India constitute nearly 6% of the total workers. This percentage ranges from nearly 2% in Kerala to 9% in Andhra Pradesh (see Table 8).

Table 8

Statewise Percentage Distritribution of Child Workers to Total Workers : 1971

Andhra Pradesh	9.03	Assam	5.64
Karnataka	7.94	Maharashtra	5.37
Rajasthan	7.29	Haryana	5.20
Madhya Pradesh	7.27	Uttar Pradesh	4.85
Orissa	7.18	Tamil Nadu	4.84
Gujrat	6.17	West Bengal	4.13
Bihar	6.06	Kerala	1.80
Punjab	5.95	All India	5.96

Source : Statistical Profile of Children and Youth in India, UNICEF, New Delhi, November 1975.

These figures indicate still child labour makes positive contribution to family income, particularly to the families of lowest economic strata. Another thing which prompts large families is the old-age security. As Robert Cassen has put it "where all feasible improvements made in education, health, mortality, social attitudes, family planning programs,......and nothing done about old-age security, the number of children born to each couple might still exceed replacement levels for that reason alone".[11] Thus new policies have to be devised and existing policies have to be strengthened to discourage child labour. New social security schemes may be designed for the parents who did not have pension arrangements.

Family Planning Budget

When we consider the Fifth Plan outlay of Rs. 516 crores, we may tend to conclude that India has been investing exorbitant amounts on family planning. In reality, it is spending only small fraction in terms of per capita and percentage to the total national budget. Though Table 9 shows that India allocated nearly 4% of the total national budget on family planning, the annual per capita budget is only 15 U.S. cents. In some of the developing countries like

Mauritius, Jamaica and Iran, the annual per capita budget is higher than in India. "Experts estimate that between 45 and 60 U.S. cents per capita per year would be required to provide family planning services for women living in the poorer countries".[12] On the contrary, most countries spend much less but even if they had spent more, it would not imply a radical revision of current development investments.[13] Thus there is a need to give relatively high priority to the Family Planning Programmes in terms of funding. The present family planning allocation in India is so small relative to total births that the practice of cuts in the budget allotment should not be recurred.

Table 9

Family Planning Budgets in Some Selected Developing Countries

Country	Year	Total budget for family planning programmes (U.S. $ in millions)	Family Planning budget as a % of total national budget	Annual per capita budget for family planning programmes (U.S. $)*
India	1972	86.59	3.70	0.15
Iran	1972	10.70	0.10	0.29
Philippines	1972	5.99	0.63	0.03
South Korea	1972	5.58	0.14	0.10
Thailand	1973	5.00	0.12	0.04
Jamarca	1971	1.09	0.30	0.56
Mauritius	1972	0.89	1.10	0.81

* Government funds only.

Source : Based on Bernard Berelson, "World Population ; Status Report 1974", Reports on Population/Family Planning, No. 15 : January 1974 ; p. 41.

Programme Evaluation

Although a number of factors may influence fertility over the long-run—including education, per capita income, employment and status of women, and availability of housing and jobs—these recent data strongly suggest that over the short-run, for developing countries today, the most important single factor in attainment of sharp fertility declines is the availability of more effective methods of fertility control distributed through vigorous nation-wide family planning programmes.[14] Because of this dominant role of family planning programme its proper evaluation provides a foundation-stone on which super structure of vigorous birth control programme can be built up. No systematic attempt has been made to evaluate family planning programme in various States and it is long overdue. Moreover the findings from analysis and evaluation of current family planning programmes reveal little on three critical issues :

(1) What fertility reduction results could one anticipate from a "quality" family planning programme ?

(2) How cost-effective are the existing quality family planning programmes ?

(3) Are there means of reducing fertility that are more cost-effective than family planning programmes ?[15]

Recently Dr. Karan Singh, Union Health and Family Planning Minister, has announced new population policy measures of raising the minimum age at marriage by three years, linking representation for States in the Lok Sabha and plan assistance to States to the level of population in 1971 for the next 25 years, increase in monetary compensation for sterilisation and group incentives.[16] These policy measures have to be watched closely and their effectiveness of fertility reduction had to be examined. Before resorting to compulsory sterilisation, each state has to evaluate not only short-term effects of family planning but also the long-term effects of socio-economic development on fertility.

Human Rights and Population

In 1968 the UN Conference on Human Rights at Teheran gave recognition to the principle of family planning as a basic human right and proclaimed that "parents have a basic human right to determine freely and responsibly the number and the spacing of their children" ......and "a right to adequate education and information in this respect".[17] The UN Declaration on Social Progress and Development in 1969 requested the Governments to provide couples with not only the "knowledge", but also with the "means necessary" to exercise that basic right. However, this family planning right will be unnerved unless it is supplemented by certain other human rights. "The Tehran proclamation and the Declaration of Social Progress and Development have laid down certain minimum conditions for the exercise of the family planning right,......without which the family planning right would prove illusory".[18] This is called "the Charter on Human Rights and Population", which constitutes fourteen rights :

adequate education and information on family planning ; access to the means of practising family planning ; the equality of men and women : parental support for illegitimate children ; work ; adequate social security system ; freedom from hungers ; adequate standard of living ; freedom from environmental pollution ; liberty of movement ; privacy ; conscience ; separation of church from state, law from dogma ; and social, economic and legal reforms to conform with the above rights.

Although India also has officially recognised family planning as a basic human right, as Luke Lee put it, "it has seldom been followed by systematic legal reforms to bring the existing laws into line with that recognition".[19] The Indian couples are denied a full range of family planning methods. Population Education is yet to be introduced in school curriculum. Still there is substantial unmet felt-need for curative, preventive and family planning services in rural areas. Though the law prohibits child labour, it has not been enforced properly. Most of the Indians are beyond the reach of pension arrangements. Even the existing Child Marriage Restraint Act has not been implemented rigorously and equality for women with men is yet to be seen in India. Thus there is a marked difference between the law and the reality and this gap is due to the lack of coordination. "In the light of all this", according to Lee's proposal, "the Law and Population Programme seeks, as the first step, a systematic compilation of all the laws bearing directly or indirectly upon population and family planning—not only contraception, abortion and sterilisation laws, but also the laws on the minimum age of marriage, divorce and remarriage, adoption, polygamy, inheritance, child and female labour, family and child allowances, maternity leave and benefits, oldage security, compulsory and sex education, medical and para-medical practice, income tax, land tenure and migration".[20]

Thus in order to compile laws and prepare model codes it has been proposed to establish Law and Population Projects to be funded by UNFPA, IPPF, etc. Such projects have already been established in 23 countries (up to Jan. 1974)[21] with the exception of India. Immediate steps may be taken in India to reform and compile the laws by establishing Law and Population Project, which facilitates the effective realisation of family planning as human right. Nationwide introduction of compulsory legislation also presupposes such reformation and compilation of laws having a bearing on family planning.

Alternatives for Less Advantaged States

Ruling out the Central legislation for compulsory sterilisation, at the time of National Population Policy Dr. Karan Singh, Union Health and Family Planning Minister, has expected that "the State Governments would consider their proposals afresh in the light of the new national policy".[22] The Minister's caution is more directed towards the less advantaged States that are resorting to compulsion. Instead he suggested a package of measures to contain population explosion. The new national population policy envisaged raising the minimum age of marriage from 15 for girls and 18 for boys to 18 for girls and 21 for boys. Still the female age at marriage in the less advantaged States of Rajasthan, Uttar Pradesh, Madhya Pradesh and Bihar was less than 16 years in 1971.[23] These State Governments have to implement effectively this policy of higher age at marriage which will have socio-economic and demographic impacts.

However, the linking of Central assistance to family planning performance and to 1971 population level for the next 25 years may act as a constraint to the expansion of the programme in the weaker States. It may be recalled here that unsatisfactory performance of family planning in some of the States is not due to the lack of interest, but due to unfavourable institutional setting coupled with weak programme effort (see Table 1). Thus the Centre has to consider sympathetically while allocating resources to the weaker States. Raising the levels of female education, giving high priority for child nutrition and the introduction of population education in educational institutions are some of the energetic national population policy measures for which state governments have to pay considerable attention.

The raising of monetary compensation for sterilisation and group incentives designed to involve other officials in the programme are the well conceived incentives to propagate the programme particularly in weaker States.

This does not mean that more advantaged States may ignore new population policy, but it provides the only panacea for less advantaged States. Carefully conceived as the national population policy is, there is a considerable scope for improving its content at the hands of the State Governments who have actually to execute it.[24]

The announcement of 20-point Economic Programme will have far reaching effects not only on socio-economic development but also on family planning performance particularly in backward States.

Because, it has been recognised that the level of family planning programme acceptance is also linked with the socio-economic setting of a society. This relationship between 20-point plan and family planning was emphasized by Dr. Karan Singh when he said that "family planning should be considered as underlying and over-riding all these 20-points".[25] For the time being the less advantaged States may prefer a package of incentives and disincentives rather than resorting to compulsory sterilisation.

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Regional Disparities in Uttar Pradesh

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Uttar Pradesh can be divided into five economic regions by grouping contiguous districts having more or less similar geographical area and climatic conditions, economic activity pattern, population density and agricultural conditions. These regions are (i) Eastern region consisting of 15 districts, (ii) Bundel Khand region consisting of 4 districts, (iii) Hill region consisting of 8 districts, (iv) Central region consisting of 8 districts, and (v) Western region consisting of 18 districts.

Population Trend

The rates of growth in the sparsely populated regions of Hill and Bundelkhand were higher than that of the State as a whole. On the other hand the Eastern region with its characteristic of a high density of population had a relatively lower rate of growth. The Western region also has a high density of population and the rate of growth noted in this region was found comparatively higher than that in Eastern and Central region. About 86 per cent of the population of the State resides in rural areas. The urban population during last decade increased by 14 per cent in the State as a whole but this upward trend in the proportion of urban population is true for all the regions. It was found that the Hill region which had a lower urban content during 1961 (12 1 per cent) recorded 49.6 per cent increase in urban population during last decade 1961-71 with the result that the proportion of urban population in the Hill region during 1971 was observed to be 14.7 per cent. The Western region followed by the Central region continued to be the most urbanised region of the State. .However, the urban content of the Eastern region was found so slow (8.2 per cent) that it pulled down the urban

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population content of the State to 14 per cent against 18.3 per cent of the Western region and 17.4 per cent of the Central region.

This increasing trend in the urban population shows to some extent a migrating tendency in the rural population. The higher rate of increase (49.6 per cent) in population in Hill region was mainly due to the migration of a great number of persons to the cities and towns of Hill areas from rural areas or other urban areas of the State apart from a natural growth of population. The growth in the urban population in Eastern region was slightly higher than in Western region which might be due to the of migration of people from rural areas on account of a high pressure on land to urban areas in search of employment or odd jobs.

The sex ratio—(number of females per thousand of males) slightly increased up to 1951 when it was 910 but it declined marginally in the next decade (1951-61) and during last decade (1961-71) it further declined to 879 in 1971 from 909 in 1961. Though the sex ratio is not declining in U.P. alone but in the country as a whole, it is a disturbing factor. The sex ratio is not uniform in the different regions of the State. It 1961 it was higher in the Eastern region (988) than the Hill region (975), the Bundelkhand (903), the Central (863) and the Western region (849). The same were the orders of the regions in 1971 also. If we consider the sex ratio in rural and urban areas it will be interesting to note that excluding the Western region all other regions and the State as a whole had a higher sex ratio in rural areas than in the urban areas. This shows a migratory characteristic of the rural males who leave their home for the town in search of employment while the women stay behind.

Table 1

	Region	Annual Compound rate of Growth		Percentage increase in population		Sex Ratio		Density of Population	
		1951-1961	1961-1971	Rural	Urban	1961	1971	1961	1971
1.	Hill	2.1	2.1	19.4	49.6	975	967	61	75
2.	Western	1.7	2.0	20.4	29.9	849	829	312	381
3.	Central	1.6	1 8	17.6	28.8	868	850	287	343
4.	Eastern	1.3	1.6	16.2	30 5	980	930	330	387
5.	Bundelkhand	1.9	2.1	21.1	32.4	903	870	119	146
	Uttar Pradesh	1 6	1.8	18.2	30.7	909	879	251	300

Uttar Pradesh which ranks first in population occupies fourth place in regard to the density of population. Amongst the regions the Eastern region was most densely populated (387 persons per square km.) followed by the Western (381) and the Central (343) region. These regions had larger densities than the State as a whole both in 1961 and in 1971.

Workers

Population provides the labour force for the development but may prove a drag on the economy if the non-working population grows beyond the resources available in the State. The economy of the State is mainly agrarian, the majority of workers, i.e., 63.9 per cent were engaged in agriculture as cultivators and 11.3 per cent as agricultural labourers. The number of agricultural labourers increased from 32.61 lakhs in 1961 to 54.97 lakhs in 1971, i.e., by 68.6 per cent indicating that a large number of small cultivators who were classified as cultivators in 1961 census reported agricultural labour as their main activity in 1971. The percentage of workers engaged in this category in 1971 was higher than that in 1961 for the Hill, Central and Eastern Regions whereas a decline was descernible in the Western and Bundelkhand regions. As per 1971 census 67.84 per cent of the total population were non-workers while in the remaining 32.16 per cent, 18.01 per cent were cultivators, 6.22 per cent were agricultural labourers and 7.93 per cent were engaged in other activities.

Weaker Sections of the Society

The scheduled caste and tribal population, landless labourers and marginal cultivators constitute a major portion of this class.

Table 2

Economic Classification of Workers

(Percentage)

Region	Cultivators		Agricultural Labourers		Others	
	1961	1971	1961	1971	1961	1971
1. Hill	77.2	71.0	2.7	4.8	20.1	24.2
2. Western	57.2	55.4	6.7	14.7	36.1	29.9
3. Central	67.6	61.0	8.0	13.6	24,4	25.1
4. Eastern	65.2	52.0	17.0	27.3	17.8	20.7
5. Bundelkhand	62.9	54.5	13.0	25.1	24.1	20.4
Uttar Pradesh	63.9	56,0	11.3	19.4	24.8	24.7

According to 1971 census, the population of scheduled caste/tribes was 187 lakhs which formed 21.2 per cent of the State's population. *Almost similar was the proportion of the* scheduled caste and tribal population in the country as a whole (i.e., 21.5 per cent). One-sixth of the total population of scheduled castes and tribes in the country is reported to be residents of U.P. Scheduled caste/tribal population is mainly concentrated in rural areas of the Central and the urban areas of Bundelkhand region. Amongst the cultivators those possessing less than 2.5 acres (1.0 hectare) of cultivable land are classified as marginal farmers as cultivation is not considered to be a paying proposition for them. As per 1961 census, the number of marginal farmers were estimated as 36.45 lakhs in the rural areas of the State. Out of these more than half, i.e., 52.3 per cent were in the Eastern region followed by 19.8 per cent in the Western region and 18.0 per cent in the Central region. The Hill and Bundelkhand regions accounted for 8.4 per cent and 1.5 per cent of the State's total cultivators of the category.

The increasing trend in population has aggravated the economic condition of the State by reducing the per capita availability of land, net area sown and foodgrains. It was observed that during the period of 10 years (1961-71) per capita geographical area of the State declined to 0.33 hectare from 0.40 hectare. Though the foodgrain production increased to 194.65 lakh tonnes from 144.86 lakh tonnes during the last decade (1961-71) but not in tune with the increase in population. Per capita production of foodgrains in the State which during 1960-61 was about 196 kilograms increased barely by 12.2 per cent in 1970-71 when it became 220 kilograms. The decreasing trend

Table 3

Region-wise Distribution of Scheduled Castes/Tribal Population in U.P.

Region	Percentage of State's Total Population of Scheduled Castes/ Tribes	Scheduled Caste/ Tribe as Percentage of Total Population
1. Hill	4.0	19.7
2. Western	30.5	18 2
3. Central	22.7	27.1
4. Eastern	37.0	20.9
5. Bundelkhand	5.8	25.3
Uttar Pradesh	100.00	21.2

was noted in the case of net area sown which decreased to 0.23 hectare per capita in 1969-70 from 0.27 hectare per capita during 1960-61 despite an increase of 1.1 per cent in the net area sown between the same period. On an aggregate level irrigated area to gross cropped area was 38.3 per cent at the end of Fourth Plan. It was lowest, i.e., 18.4 per cent in the Hill region and highest, i.e., 44.6 per cent in Western region. Eastern region had below the average level of irrigated area for the State.

The increasing trend in population of the State has neutralized the efforts in the field of services of public consumption such as roads, hospitals, etc. also though these facilities have been considerably augmented during the plan periods. It was observed that length of actual surface road in the State (except Uttar Khand) increased by nearly 28 per cent during the last decade, i.e., 1961, but in terms of roads per lakh of population, the increase was only by 7 per cent during this period. The number of medical facilities such as hospital dispensaries increased by nearly 48 per cent during 1961-71 but if adjudged in terms of average population per hospital dispensary the improvement was not satisfactory.

Institutional Finances

Institutional finances play a very important role in financing the State Plans. Institutional finance includes advances made by Commercial Banks, Central and State Financial Corporation, Life Insurance Corporation, Rural Electrification Corporation and such other Corporations. Apart from these the credit cooperative societies also play a vital role in financing the agricultural sector. After nationalization of banks, in 1969 they have also started playing a vital role in the economic development of the State.

Before nationalization in July 1969 there were 753 bank offices and thus there was one bank office for a population of 118 thousand in the State. Against this there was one bank office for a population of 65 thousand in India as a whole. By the end of June 1972, however, the position improved substantially and the number of bank offices was 1324. Thus there was one bank office for every 67 thousand persons in the State.

It may be seen* from the table-4 that about 42.4 per cent of the bank offices were located in the Western region followed by 25.2 per cent in the Eastern region, 18.7 per cent in the Central region, 9.61 per cent in the Hill region and 4.1 per cent in the Bundelkhand region. If we see the banking facilities keeping in view the population then the Hill region appears to have the best banking facilities but this is mainly due to the sparse population of that region. After the Hill region, the best banking facilities are available in the Western region where the population per bank office was only 56 thousands as against 67 thousands in the State as a whole. The Central region (64 thousands), Bundelkhand (79 thousands), Eastern region (99 thousand) followed in that order.

Table 4

Region-wise Distribution of Commercial Banks Offices

Region	Number		Percentage Distribution
	Rural	Urban	as on 30.6.72
1. Hill	67	60	9.6
2. Western	188	373	42.4
3. Central	75	173	18.7
4. Eastern	151	183	25.2
5. Bundelkhand	19	35	4.1
Uttar Pradesh	500	824	100.0

A special feature of expansion of banking facilities after nationalization has been the opening of bank offices in the rural areas.

Primary Agricultural Credit Cooperative Societies provide loans for agricultural purposes in rural areas.

Table 5

Regional-wise Distribution of Loans by Primary Agricultural Credit Cooperative Society in 1969-70

Region	Membership (thousand)	Loan per Member (Rs.)
1. Hill	297	110.78
2. Western	1980	163.11
3. Central	852	54.47
4. Eastern	1930	99.91
5. Bundelkhand	277	91.83
Uttar Pradesh	5336	116.29

The cooparative societies play a more important role in paying loan to the people. The loan per member has constantly increased to Rs. 116.29 in 1969-70 from Rs. 82.41 in 1966-67. The cooperative societies play a major role in the Western region where the loan advanced per member was Rs. 163.11 while in other regions except the Hill advances of loan per member were lower, i.e., Rs. 99.91, Rs. 91.83 and Rs. 54.47 in the Eastern, the Bundelkhand and the Central regions, respectively.

Regional Imbalances

The Government of India have laid more emphasis on solving the problems of imbalances in development in the different regions of the country. About 10 per cent of the total Central assistance was earmarked for backward regions on the basis of per capita income. State Government has also given priority to relatively backward areas of the State within the limited resources available as it has to be recognized that due to the overall paucity of funds leading to inadequate provision for development of basic infrastructure and industries in these areas, the backward areas have continued to lag behind. On the basis of agricultural productivity, lack of industries and inadequate infrastructure, 3 regions of the State out of 5 regions of the States are backward. Although in the remaining 2 regions also there are some pockets which are relatively more depressed. The salient features relating to physio-geographical position, natural resources, pattern and diversity of economic activities, existing levels of production and availability of various infra-structure facilities in respect of the three backward regions of the State are as follows :

Eastern Region

The Eastern region is bounded by Nepal in the North, with the Central region of Madhya Pradesh in the South and Bihar State in the West. The population and area of the region are 331.87 lakh persons and 0.86 lakh square kilometres respectively, constituting about 37 per cent and 29 per cent of the State's population and area. The density of population is higher, i.e., 387 per square kilometres as against 300 for the entire State. The regions is characterized by overwhelming dependence on agriculture, fragmented agricultural holdings, resulting in low productivity per hectare, lack of non-agricultural employment, poor communication, under-employment and low standard of living.

As per 1971 census more than 79 per cent of the workers were found to be engaged in agriculture as against the State's average of about 75 per cent. It shows relatively heavy dependence of population on agriculture. Nearly half (49 per cent) of the households have holdings of less than 2.5 acres, that is one hectare. Holdings of 7.5 acres are possessed by only 13 per cent of the rural households.

The corresponding percentages for the State are 39 and 19 respectively. The per capita (rural population) net area sown in this region is also much less than the State's average. These figures in 1969-70 for the region and the State were 0.19 hectare and 0.23 hectare respectively. The per capita availability of cultivable land is also relatively less, being less than 0.59 as compared to the State's average of about 0.83 hectare. The average value of agricultural production per hectare at 1960-61 prices during the given quinquennial ending 1968-69 was also low as compared to other regions of the State and stood at Rs. 490 only as against Rs. 607 in the Western region, Rs. 562 in the Central region and Rs. 554 in the State as a whole. Similarly, the per capita value of agricultural production was also quite low being only Rs. 129 as against Rs. 202 in the Western region, Rs. 198 in the Bundelkhand region, Rs. 168 in the State as a whole. It means that the levels of agricultural production per hectare and per capita in the Eastern region were less by 8 per cent and 29 per cent respectively than the levels in the State. In this connection, it may be significant to reiterate the observations made in the report of the joint Study Team led by Shri B.P. Patel (popularly known as Patel Committee) about the condition of the agricultural classes in this region.

"In these districts the agricultural income, which is low for each acre of the cultivated land, gets further reduced when shared by more persons. Not only the cultivated land is less per person or per family on an average but its distribution is very skewed, with the result that a very large number of families at the lower end would have much less income than indicated by the average income".

The productivity of foodgrains per unit area in this region is also low as compared with the State as a whole. The main factor which adversely affected the economy of the region is the recurrence of floods and droughts. In the year of 1970-71 29.0 per cent of villages covering 16 81 per cent of the area in the Eastern region badly affected by droughts while the corresponding figure for U.P. as a whole was 20.5 and 9.9 per cent only. Flood affected 19.8 per cent of the total population of the region as against 12 4 per cent for the State as a whole. Out of total damage to crop and property including public utilities of Rs. 65.13 crores caused by flood about half, i.e., 32.88 crores was in the Eastern region alone.'

The development of industrial sector is not impressive except for some concentration of sugar factories in certain pockets of the region. About 0.22 per cent of the total population are employed in registered factories as against the State average of 0.42 per cent. The value of industrial production per capita was estimated as Rs. 53 for this region as against Rs. 87 for the Central region, Rs. 110 for the Western region. This shows that the per capita value of industrial production in this region was 39 per cent below the State level and was above the State level by 62 per cent and 26 per cent in the Central and the Western region respectively.

This region is interspersed with a large number of rivers, streams, rivulets, drainage channels which make communications very difficult. Road kilometerage per lakh of population is still about 5 per cent less than the State average. Due to number of efforts being made by the State Government the gross irrigation area to gross area sown in the Eastern region was 32.4 per cent as compared with 50.2 per cent in the Western region and 37.1 per cent in the State as a whole.

Bundelkhand

This region comprises of only 4 districts, namely, Jhansi, Banda, Jalaun and Hamirpur. The region is mostly arid with the maximum temperature varying between 46°C and 47°C and the minimum between 4°C and 5.8°C. The area is generally deficient in rainfall. The soil of the region is mixed red and black. In this region there are four types of soils such as 'Mar', 'Kabar', 'Parwa' and 'Rakar'. There is some feasibiltiy of commercial exploitation of the mineral deposits discovered in this region.

The population and area of the Bundelkhand region are 42.91 lakh persons and 29 59 square kilometers respectively, constituting 4.9 per cent and 10 per cent of the State's population and area. The density of population is 146 per square kilometre as against the State average of 300. Main source of livelihood of this region is agriculture and according to 1971 census about 80 per cent of the workers were employed in this sector. About half (48.4 per cent) of the cultivators had holding of 7.5 acres (2.04 hectares) or more whereas the percentage of holdings of this size in the State is only 10. Per agricultural worker cultivated land is larger being 1 85 hectares as against 0.83 hectare in the entire State. But despite comparatively larger holdings possessed by the households in this region, productivity is much lower than the State's average mainly because of poor irrigation facilities and dry areas. The productivity of foodgrains in this region has remained more or less static while the production in the State has an upward trend.

Per hectare value of agricultural production of the region is lowest. If estimated at the prices of 1960-61 as Rs. 345 as against Rs. 606 in the Western region, Rs. 562 in the Central region and Rs. 534 in the State as a whole. It shows that the level of production in this region was 35 per cent less than the State average while it was higher by 14 per cent and 5 per cent in the Western and the Central regions respectively.

The region is backward in the sphere of industrial development. The number of workers employed in registered factories was 0.15 per cent in 1970 while the corresponding figure for the State was 0.42. The share of the region in total value of the industrial production in organized sector of the State in 1968 was only 0 005 per cent (Rs. 4 crores). Per capita value of industrial production was estimated at Rs. 11 only while the corresponding figure for the State was Rs. 87 indicating that the level of per capita industrial production in this region was less than that in the State by as much as 78 per cent. The level of industrial production was higher than the State's average by 62 per cent in the Central region and by 26 per cent in the Western region. The small scale industries are also not adequately developed in this region. As per 1971 survey made in the urban area of the State it was found that this region had only 2 per cent to the 17,000 small scale industries employing 5 or more persons in the State as a whole.

Percentage of gross area irrigated to gross cropped area in 1970-71 was 21.2 per cent only while the same was 50.2 per cent in the Western region and 37.1 in the entire State. The irrigation facilities in the region have resulted the intensive cultivation and it was estimated that only about 9 per cent of the area could be brought under double cropping as against 25 per cent in the State.

There are two rivers namely Betwa and Ken which join Jamuna and is characterised by heavy erosion. About 1/5 of the net cultivated area is cultivable waste as against less than 1/10 in the State.

There is acute shortage of drinking water in larger tracts, poor accessability to rural areas due to great paucity of roads. The region is very backward and the main reason for this backwardness is lack of infrastructure such as electricity, roads and irrigation. About 9.9 per cent only of the total villages are electrified in this region as against the State's percentage of 21.1 per cent in 1972-73.

Hill Region

This region lies in the north along the Himalayas and is bounded by Tibet in North, Himachal Pradesh in the West, Nepal in the east and the Western region of the State in the South. The area is mountainous except some portions in the Nainital and Dehradun districts with some very high peaks ranging to a height of 6000 meters, and have deep ravines in river areas. The climate of the region is cold with the highest temperature ranging between 28°C and 42°C and the lowest between 4°C and 1°C. The soils of Hills and forest of this region are generally sandy, porous and devoid of humus and some of the valleys have rich fertile soil. The brown forest soil is good for orchard. This region occupies about 66 per cent of the State's forests.

This region constitutes 4.3 per cent and 17.4 per cent of the total population and area of the State. The population is scattered. The density of population per square kilometre is only 75 which is lowest as compared to other regions of the State. Here too agriculture is the mainstay of the majority of population. It was observed that as per 1971 census 75.8 per cent of the workers were engaged in agriculture. Due to existence of rocky land the cultivation is possible only in the valleys and slopes of hills. The holdings are very small. Per worker cultivable land was only about 0.63 hectare as against 0.83 hectare for the State as a whole.

Despite the richness in forest resources and substantial mineral resources the region is not industrially developed. It may be seen that in 1970 this region had only 258 workers employed in registered factories while the State's average is 418. The value of industrial production in 1968 was estimated at Rs. 22 crores as against the total value of industrial production in the State at 731 crores. If we estimate per capita value of industrial production it comes to Rs. 60 only while this is Rs. 142 in the Central region, Rs. 110 in the Western region and Rs. 81 in the State as a whole. Therefore, it can be said that the level of per capita value of industrial production was 31 per cent below the State's average as compared with 62 per cent above the State level in the Central region and 26 per cent above the State level in Western region.

The development of the region is impeded due to poor means of communications together with mountains and terrains, etc. Road is the only means of transportation because the only four soil heads —Dehradun, Risikesh, Kotdwara and Kathgodam—are located considerably away from most of the areas of the region.

Besides these the region lacks the drinking water which can be seen from the fact that about 5 per cent of the populated villages of this region have either no or meagre drinking water facilities.

Remedial Measures Adopted by the Government

The deplorable condition and the backwardness of the three regions have considerably attracted the attention of the Government of U.P. and now the State Government is making earnest efforts to improve the conditions of these backward areas of the State comprising 46.7 per cent of the State's population specially since the inception of Third Plan.

The expenditure incurred during the Third Plan and the three Annual Plans (Holiday Plans) in these areas was Rs. 391.40 crores which constituted 52.5 per cent of the total divisible expenditure incurred in the entire State. It was envisaged in the objectives of Fourth Plan that the disparities in social services and economic infrastructure between the backward and relatively developed areas should be reduced and keeping this in view an outlay of Rs. 462.5 crores was allocated for these areas, which constituted 52.5 per cent of the total divisible outlays of the State.

In addition to this the Central Government also allowed some incentives for industrial development in the backward district of the State. In all 36 districts out of 54 in the State have been recognized as industrially backward of which 21 districts are in the three backward regions.

(Continued from page 254)

15. M. C. Shelesnyak, "The Policy Relivance...", 1974, op. cit., p. 71.
16. The Hindu, op. cit.
17. Luke T. Lee, "Law, Human Rights and Population : A strategy for Action", Background Paper for the UN Second Asian Population Conference, 1-13 November 1972, Tokyo, p. 316.
18. Ibid, p. 318. 19. Ibid, p. 321.
20. Dr. Luke T. Lee, "The Law : a tool of social change", People, Vol. 1, No. 3, April, 1974, p. 14.
21. Ibid. 22. The Hindu, op. cit.
23. R. P. Goyal, "Shifts in Age at Marriage in India and Different States During 1961-71", Demographic Research Centre, Institute of Economic Growth, Delhi-7, 1975, (Table-4) (mimeo).
24. The Hindu, April 19, 1976, p. 6.
25. Centre Calling, Vol. 10, No. 8, August 1975, p. 2.

(Continued from page 240-H)

a change in production technique and factor combinations in an advanced economy, such possibility is rare in the backward economies. Consequently wage rise is inevitably transmitted into an increase in unit cost of production in the latter countries.

An increase in wage cost will raise overall cost of production subject to the influence of (a) changes in productivity, (b) changes in prices of imported raw materials and other factors. Where wage cost constitutes the major portion of total cost and scope of the increase in productivity is limited, a rise in wage cost will directly raise total cost affecting prices of the products. The growth of productivity or a fall in prices of the imported raw materials or both may offset a rise in wage cost. For example, in the year 1951-52, rising material costs, wage costs, fuel prices raised steel prices by 40%. During the next three years, prices of coal and wage rates continued to rise, yet fall in prices of imported materials and rise in productivity were sufficient to offset them. In coal mines in England, wage earning in 1955 was 60% higher than that in 1948; output per man-hour recorded only a 10% growth during the period. Since imported raw materials played a little role and productivity remained stagnant in the industry, there appeared direct relation between movements of wages and prices. The prices of services (travel, entertainment and postage) were also affected by the rise in wage cost as stagnation in productivity in the sector could not offset the wage rise.[3]

An increase in wage influences cost of production through its influence on the efficiency of worker. As wages rise work per man may increase more than the proportionate increase in wage. With greater amounts of work produced by the work force, it may be possible to combine resources and labour in such a way that optimum combination of factors is approached. As a result, increase in output per unit of work takes place. This reduces cost per unit of product which may lower down price rather than rise it.

But once production starts beyond the point of diminishing returns, the marginal productivity of higher wages may fall more rapidly than that of lower wages because (a) higher the wage, more the units of work are put forth per unit of time and (b) as more units of work are put forth, the marginal product per unit of work declines.[4]

3. See Ely Devons, Essays in Economics. London ; George Allen & Unwin Ltd., 1961, P. 155-162.

4. Harvey Leibenstein, Economic Backwardness and Economic Growth, 1957, P-68-69.

Spread of Cost Increase

Any change in cost or demand condition of a single industry has its repercussion on other industries. Rapidly rising demand for products of a single industry transmits its effect to the rest of the economy through its influence on prices of raw materials and wages of labour.

If wages, salaries and other costs in an industry with rapidly rising demand and high profit increase, these will also contaminate even industries of declining demand and falling profits.

Firms, in apprehension of potential rivals, undertake programmes of product improvement, research extension, and costly advertisement. Consequently pressure on specialized engineering and skill is felt in the economy. Non-price competition adopted by high-profit firms in forms of product improvement and better servicing compels other low profit firms to incur similar outlays. The result is a rise in wages and other costs of the firms. Firms faced with the periodic fluctuations in the demand for their product 'cannot afford to acquire the reputation of a low-wage firm otherwise they might sacrifice an easy access to the labour market during periods of rising demand. Further an increasingly unfavourable wage differential is a marvellously effective way in which to insure declining labour efficiency.'[5] Hence, when wages in high profit firms are on the increase, the relative lower profit firms are bound to raise their wages.

Oligopolistic firms with product and service differentiation are invariably caught with the above 'spread effect'. However they can easily pass on the burden to consumers in the form of higher prices.

If there is a signal of cost increase in some firms, others get prepared to face the contingency and start adjusting their managements to changes in costs because

(a) Firstly, they can raise price in response to cost increase as such change in price is more respectable.

(b) Secondly, if trade unions are well integrated in the economy, bargaining even in a non-competitive industry will lead to an uniform increase in cost across the industries. Consequently intra-industrial substitution effect is minimized.

(c) Thirdly, since the wage increase is usually smaller than the potential increase in demand and the rate of growth of the economy, firms do not stand to lose rather they gain, by adjusting to wage-cost changes and sharing the benefit of the increased demand and maintaining their standard of performance. Failure to do so may push them to the rear ground.

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[5] Charles L. Schultz in P. A. Samuelson and others (ed,). Readings in Economics, McGraw Hill Book Company, 1964 P. 97.

Further, once a rise in wages in one firm or industry is effected, the 'propensity to invidious comparison' on the part of workers in other firms or industries tends to make them insincere in work. Employers, in order to avoid penetration of trade unions also introduce similar wage-change in their respective firms.

Even when conditions of firms are not parallel, the 'coercive-comparison' of the trade unions force wage revisions in some firms. All these imply that the pattern of wage increases introduced in rapidly expanding firms or industries is likely to spread in a modified fashion to the rest of the economy.[6]

It is strange to note that the trade unions' activities are not usually guided by the consideration of possible effect of wage change on employment. Arthur M. Ross has argued that "the union is not automatically or continuously concerned with the quantity of labour sold, further the typical wage bargain is necessarily made without its employment effect" [7]

Businessmen's attitude in respect of wage concession when pressure for wage-increase is appearing somewhere will be governed by the expected level of profit and capacity utilization. The current level of unemployment in the economy which has profound bearing on the last two also reflects the strength and temper of the workers.[8]

The foregoing discussions point out that any change in wage-cost in any industry or any change in important economic variable like employment, profit expectation, etc. exerts its influence on the wages or cost pattern of other industries. This inter-communication has a significant implication. If wages are to rise even in industries of stagnant productivity such as mines and service sector, due to the rise in wages elsewhere, and if wage change is to affect (usually does) price of product, the rise in wages in manufacturing industries where prospect of productivity increase is great—should be sufficiently less than the increase in productivity to make price of the latter fall markedly to ensure price stability in the economy as a whole.

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[6] During 1955-57 boon in U.S.A. average wage increase in five most rapidly industries was 9.1/2 per cent. The average wage increase in five least rapidly expanding industries was 9%. Yet output expanded by an average of 12% and production worker-employment by 2% in the former group while output and employment declined by 6 & 9% respectively in the latter group. Vide Charles L. Schultze, Ibid p. 97.

[7] Arthur M. Ross, Trade Union Wage Policy. Berkeley : University of California press 1948 p. 79,

[8] R. J. Ball, Inflation and the Theory of Money. London, George Allen and Unwin Ltd. 1914 p. 137,

Effect of Change in Cost on Price

If productivity rises sufficiently some rise in wages can be permittted without any rise in unit cost and price. Samuelson and Scott say : The general average of money wages can rise at the two or three per cent annual average real productivity-increase without leading to rising price indexes or the expropriation of profits.[9] But (a) adoption by Government of a fiscal policy oriented towards full employment and (b) the growth of organized economic interests capable of influencing in the market the money compensation of their membership such as collective bargaining business practices to shelter profits against the effects of cost increase and price decline negate the possibility.

Change in cost of production in firms plays an active role in price-fixation due to the following reasons : (1) Firms seeking profit maximization get stronger instruction for price-adjustment from cost shift than shift in demand ; (2) Costs are more knowable and predictable ; (3) Changes in costs are regarded more permanent than changes in demand ; (4) Changes in coste are often uniform among firms in a competitive market. As such there arises no touching question of market share as from demand-shift ; (5) Price change based on cost-rise is considered 'proper' by the public.

In so far as a given wage-rise reflects itself in enhanced average prime cost the producers adopting the customary mark-up pricing principle tend to raise the prices of their product by adding a certain percentage to their enhanced prime cost. 'In the ultimate analysis, however, the level of prices will depend on the coefficient of price adjustment to costs of the 'price-cost elasticity'. If the coefficient is unity all wage increases will be passed on to prices, if it is less than unity, a smaller proportion of the rise in wages is passed on and if it is greater than unity prices rise more than the rise in costs.'[10] Further cost rise due to wage rise "will raise prices by the same percentage by which marginal cost has risen unless there is a special reason to suppose that wages have changed the market price-elasticity and hence producers' optimum percent profit margin."[11] The more institutionalized and less competitive the economy, the greater is the possibility of producers raising price-cost elasticity here is greater than unity.

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[9] P. A. Samuelson and A. D. Scott, Economics, (Canadian Edition), Toronto, 1966, p-617.

[10] K. Venkatagiri Gawda, Fiscal Policy and Inflation in Postwar India, 1945-54. Mysore Wesley Press, 1959, p. 58.

If the economy is a regimented one, price becomes unresponsive to demand changes but quite responsive to changes in factor prices of which wage is important. This responsiveness of price is strengthend by the Government's support for farm prices at high parity level.[12]

The aggregate level of mark-ups applied by business firms vary with the state of demand which influences their projection of future rise in prices of labour and raw materials whereas the mark-ups applied by trade unions vary with the volume of employment. If each participant in the market prices on the basis of a mark-up over the prices he pays, there may occur a spiralling process of very considerable magnitude. But improvement of efficiency and productivity may eventually bring the spiral to a halt.[13]

It must, however, be noted that the customary mark up pricing facilitates the inflationery potential of the cost-push in condition of stable demand but slows down an inflation in time of rapidly rising demand. This is because when prices are insensitive to demand, profit rates tend to be maintained and the resulting price is apt to be fixed at a higher level than the short-run profit maximization whereas under rapidly rising demand prices set with regard to cost may result in lower price levels than warranted by the state of demand which by definition is outstripping the rising cost. Thus price reacts differently to a given change in cost or supply price depending upon the nature of the demand curve.

It must be borne in mind that when marginal costs are approaching infinity (beyond capacity production) they are not increased by wage increase. Then nothing in the cost situation as it

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11. Tiborscitovsky, Welfare and Competition. The Economics of a Fully Employed Economy. Chicago, Illinois : Richard D. Irwin Inch., 1951 p. 298.

12. Edwar Mason, 'Prices, Costs and Profits', in P. A. Samuelson and others (ed.) Readings is Economics. New York ; McGraw-Hill Book Company Ltd., 1952 p. 256.

13. Gardner Ackley, Macro-economic Theory. New York : The Macmillan Company, 1961 pp. 453-54.

relates to the equilibrium of the firm, is changed by wage increase. If price increase is profitable after wage increase it would have been just as profitable before.[14] But then all firms do not work with 100% capacity. In such cases upward shift of marginal cost will move the point of marginal cost and marginal revenue curves to the left of 100% capacity increasing price thereby. Price will rise by same per cent as marginal cost provided elasticity of demand remains same. But higher cost will move the firm to the left and up along a demand function. This is proved by the following illustration. Elasticity of demand is represented by :—

$$\frac{dq}{q} \Big/ \frac{dp}{p} = \frac{dq}{dp} \cdot \frac{p}{q}$$

(Q=Quantity of goods. p=price.)

A movement upwards to the left of the demand curve is certain to increase the ratio p/Q since p is increasing at the same time that Q is falling. Consequently elasticity will increase unless there is sufficiently strong offsetting change in the slope of demand curve. That is, for elasticity to remain same at higher price and lower output, it is necessary for the slope of demand curve to increase sufficiently to counteract the influence of the predictable change in the p/Q weight. Thus the elasticity of demand will increase as costs rise if we are dealing with demand curve that is linear concave from below or only slightly convex.

Rise in price due to the increase in cost is more probable than a fall in price due to the decrease in cost ; because the typical firms avoid profit reduction than price rise, reduction in demand due to the price rise is more certain than the rise in demand due to the price fall, and above all firms maintain sufficient profit margin to overcome the future possible loss.

To sum up, rise in wages not commensurate with the rise in productivity, price-cost elasticity depending upon the institutional character of the economy, the shape and nature of cost and revenue curves determining the elasticity of demand—all these govern the impact of wage rise or cost increase on price. Change in price is possible due to the change in wages not only through the latter's effect on cost of production but also through its influence on the market demand for the product owing to the increase in money income in the hands of the workers.

[14] See Review of Economics and Statistics, May 1957 p. 129.

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- New Horizon in Indian Taxation
- Total Factor Productivity of Small Scale Firms
- Breaking the Vicious Circle of Poverty : The Occupational Change Approach
- Beginning of the End of Marxism-Leninism ?

VOL. 21, No. 8 AUGUST 1976

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Contents

Editorial

277 **Beginning of the End of Marxism-Leninism ?**

279 **Review**

Articles

Sujit Kumar Ghosh

281 **New Horizon in Indian Taxation**

T. V. S. Ramamohon Rao and Sarthi Acharya

293 **Total Factor Productivity of Small Scale Firms**

Syed Afzal Peerzade

297 **Breaking the Vicious Circle of Poverty : The Occupational Change Approach**

K. T. Krishnan

305 **The Public Debt Controversy : A Reply**

Sankar Ghose

311 **Planning To-day**

ECONOMIC AFFAIRS

Volume 21 August 1976 No. 8

Beginning of the End of Marxism-Leninism ?

So goes, Marxism is a scientific product. Scientific Marxism had to be rescued by Lenin introducing such elements as 'imperialism' when the ardent Marxist followers found that capitalist world did not crumble down according to its prediction. Marxsim was then adorned by the peculiar amalgam of 'Marxism-Leninism'. It then found a new life and continued to float as a 'scientific' doctrine. Analytically speaking, this became possible mainly because it had the thrusts of the magical interpretation and persistent propagation that the 'ups' of capitalist world were the warning of its impending collapse and the 'downs' the beginning of its collapse, marking neatly the prophesy of Marxism-Leninism. Nobody in the communist rungs seriously questioned its fallacy ; for all seems to be obsessed by the two significant communist terms, 'internationalism' and 'proletarian dictatorship'. How nice it sounds, "Working men of all countries, unite !", and how exciting it is for a half-fed toiler that "The proletarians have nothing to lose but their chains", and how encouraging to know, "They have a world to win."

Dialectically, these appeals and the communist penetration carried in them the seeds of destruction of the 'scientific' core of Marxism-Leninism. The recent outbrusts of the West European communist countries and the communist party of Japan in defence and deference of 'own road to socialism' and deletion of the term 'proletarian dictatorship', and, in the case of Japan, substitution of Marxism-Leninism for 'Scientific Socialism' evince that the seeds are at an advanced stage of pregnancy. For they are under heavy pressure of reactive experiences ('social consciousness', following Marx) and immediate and basic need to share power through democratic means. Increasingly they have realized the second but real meaning why nowhere in the world communists have come to power following the tract laid down by Marxism, why all democracy-tasted countries stoutly rejected Marxism and smartly defended democracy against communist subjugation, and why world war was an essential condition for communist oriented revolution. The awareness has led them to accept that Marxism is a hundred per cent social science and like any other social product it is bound by time and space and thus subjected to rejections. If it is still alive it is due to the administration of artificial respiration through its vitalities of historical content of evolution of capital and sociological appeal to humanity. And this very awareness makes them demand that their decisions-making shall be independent of any interferences of outside communist party or regime. This has been yielding very good results. For the democratic-minded people of the West have been increasingly accepting them as a party which is radical in outlook but at the same time not a believer in 'internationalism', i.e, acting as a guard of the expanding frontiers of a leader communist regime, and in 'proletarian dictatorship', which was once useful to Lenin as a necessary evil for "It is impossible to suppress classes without a dictatorship of the professed classes, the proletariat", (Lenin), but has lost all its values by now, most so in a classless society, where its stay is inconsistent.

Spiritually, the followers of Marxism shall live up to Marx's noble words that "the Communists disdain to conceal their views and aims." If the *new* communists do positively conceal "that their ends shall be attained only by the forceful overthrow of all existing social conditions" or, non rejecting Lenin, that "Wars are inevitable as long as society is divided into classes, as long as man exploits man", they will prove them spiritually non-conforming to Marxism-Leninism; but then ?

Then they will invoke disaster not only upon them but also upon the communist movement in other democratic countries, all of which want a new leadership for a new society, free of communist repression and capitalist oppression.

ANNOUNCEMENT

Next issue will come out on the 15th October 1976 as a special supplement number on Indian Jute Industry. The price per copy of this issue will be Rs 4.00.

sd./ M. Roy
Manager

Review

Foreign Investment and Economic Development in Asia, General Editor Nihar K. Sarkar, Orient Longman Limited, Calcutta, 1976, Price Rs. 75.00.

The book is divided into two parts and eleven chapters. Introducing some preliminaries on scope of the study, 'direct' and 'portfolio' investments, sectoral composition of foreign private investment and recent trends of it in Asia the study makes a headway to case studies of a number of countries. Off the main track it studies multinational corporations in controlling developing economies and the structure of capital markets in selected ECAFE countries. Finally, it emerges with its basic policy and recommendations.

The consensus of the contributors to this book seems to be that "Asia can hardly wait for a slow evolution .Foreign capital can step in to accelerate the tempo and generate the processes within the countries so that, gradually, these functions can be taken out by indigenous factors."

One contributor seems a bit worried about the colonial 'enclave' system created by foreign capital and suggests rapprochement between the enclave system and the nationalist reaction against any sort of foreign private investment. This finds climax in the desire that the developing countries and multinational corporations "should know each other's problems, motivations and aspirations". This is fine. For what is wrong is not the multinational mix but the motivation. The greater danger is that a 'national corporation' of today of a developing country may enter tomorrow the race of multinational corporations with the same motivations. Then the task of saving the world economy from the rule of international corporations will be extremely difficult.

In an illuminating article attempts have been made, with considerable success, to locate the presence of certain leakages in domestic saving-investment process and plug them to reduce the negetive effect of foreign capital on domestic savings.

On basic policy issues and recommendations it has been emphasized that the economies of the developing countries should be open to participation of foreign capital in order to reap the benefits of modernity and imported savings. As a safegured against taking undue advantage by the multinational corporations the developing countries have been asked to play one multinational corporation against the other by diversification of the sources of foreign investment. But the contributor contradicts himself resigning to reality that foreign investment in developing countries of Asia comes only from two countries: the United States and Japan. Had it not been the case, that is, if all or most countries had owned multinational corporations the problem would have assumed the form of cold war among the possesors for the relative shares in world markets.

Each article in the book is a deep research product. One may differ with the contributors' last say that developing countries should open their economy to international social, economic and political penetration but none can go without having a regard for their logical assertions.

Tea Statistics 1974-75, Issued by the Tea Board of India, Calcutta, Price Rs. 10 00.

Tea Statistics is the most authentic and useful publication on tea statistical information. It is widely used because of its all-comprehensive aspects. In this 21st publication many new aspects have been included and the figures have been made uptodate. It is pleasing to note that the Board hopes to bring out the 1975-76 issue at the end of the current year.

Acknowledgement of Books

Village Water Supply, 1976, World Bank, Washington
Reshaping the Constitution, N. A. Palkhivala
Should We Alter Our Constitution ? N. A. Palkhivala
Tandon Committee Report and Finance for Industry, J. H. Doshi
Principles of a Sound Personnel Policy, S. R. Mohan Das
The Union Budget 1976-77, N. A. Palkhivala
The Economic Implications of the Union Budget, 1975-77, R. J. Taraporevala
Modern Technology for Economic Development, S. Sampath
Published by Forum of Free Enterprise, Bombay.

New Horizon in Indian Taxation

Sujit Kumar Ghosh*

In an economy which seeks to enter upon a career of rapid growth and development but constrained by limited growth of aggregate investment, one major goal of fiscal policy is to mobilise savings, to tha fullest possible extent, within the community. Taxation as one vital fiscal instrument can serve this purpose by effecting a cut in private consumption expenditure and calling for sacrifices from all sections of the people. Fiscal policy must also be oriented towards ensuring optimum possible allocation of resources, desired inter-personal distribution of income and economic stability. Against this broad over-all perspective our reflections need be focussed on three basic objectives of taxation which are :

(i) to maximise growth rate subject to certain constraints and modify the pattern of growth so that it can correspond closely with the desired use of resources and pattern of resource allocation ;

(ii) to ensure horizontal, vertical and inter-sectoral equity ;

and (iii) to control inflation.

As for maximisation of the rate of growth, the usual approach through taxation is to increase the savings-income ratio in which economic growth is an increasing function and to provide various incentives and inducements to the private sector of the economy for promoting investment and capital formation leading to proper capacity build-up and utilisation. In the light of Indian economic experience it can be asserted that there appears a very inadequate functioning of the savings investment process in this economy. Savings as percentage of national income stood at 1.8% in the government sector, 0.8 in the business or the corporate sector and 7 in the private sector during 1960-61 whereas it came to bo 1.7, 0 3 and 8 respectively during 1973-74. In aggregate terms, domestic savings was about 10% of national income in 1973-74. Investment was about 11% during 1973-74 and there is a clear sign of quasi-stagnation on the investment front, since as per cent of net domestic product it was 12.4 in 1960-61,

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* Ramkrishna Mission Vidyamandir, Calcutta.

11.5 in 1971-72 and 11.4 in 1972-73. As regards capital formation in the private sector the recent picture is naturally very disappointing. According to a recent estimate made by the Reserve Bank of India the gross capital formation of the corporate sector increased by less than 9% in 1973-74 compared to an increase of 13.5% in the preceding year. It is interesting to note here that comparing Indian situation with that of the other third world countries and developing economies it is to be found that rates of gross fixed capital formation as percentage of gross domestic product at current prices during 1968-70 stood at 15 for India, 18 for Ceylon, 19 for Turkey, 22 for Taiwan, 24 for both Thailand and Venezuela, 25 for Zambia and 26 for Zaire. Hence, looked at from the harrowing experience of the recent past, there is hardly any ground to dispute the fact that the stupendous responsibility facing the Indian fiscal authority to-day is to gear the tax system to the task of boosting up the levels of investment and capital formation within the economy. It is very often argued that the lack of propor incentives generated for the private sector through tax concessions, development rebate, etc. and the absence of adequate inducement to invest to be provided to this sector through expansion of the size of the domestic market consequent upon downward adjustment of excise duties, etc. have contributed to slow down the capital formation, low production shortage of many essential goods and economic instability. Such reality of the situation is, of course, hardly overemphasised but there is left to be discussed certain vital issues worth reflecting upon.

Emphasis may be justifiably shifted from the issue of the incremental savings-income ratio to that of maximisation of the incremental ratio of developmental spending to national income, that is,

$$\Delta[Y-(C_h+C_g)]/\Delta Y$$

Where Δ means increment, Y stands for national income and C_h and C_g non developmental household and government spending respectively. This ratio here is the objective function which is to be maximised subject to the constraints, that is, the extent of effective control on the increase in non-functional household consumption expenditure and government spending. It may be mentioned here that the primary basis of taxation should not be income but surplus income, or, Y_s which equals income, or Y, minus essential consumption, or C_e and priority investment, or I_p. Hence,

$$Y_s=Y-(C_e+I_p)$$

The measure of per capita taxable capacity, or the taxable income, per capita (Y_t) is again often put as

$$Y_t = Y - s$$

Where Y is income per capita and s subsistence per capita. Here, the measure of tax burden (B) is

$$B = \frac{t}{(Y-S)^{e_0}} \left[1 < e_0 < 2 \right]$$

t is taxes per capita and e_0 is an exponent whose value is greater than one (but preferably less than two). The taxable income per capita is increased by an exponent greater than one for ensuring the desired progressive treatment of unequal taxable capacity.

After all, the maximisation of the rate of growth necessitates the maximisation of the incremental ratio of developmental spending to national income which, in its turn, calls for a happy compromise to be made between the maximum rate of growth and the craze for improved living standard or the desire to get rich quickly. Again, on the side of growth, turning to the question of savings it is noted that the growth of savings in the government sector (g_s) is a function of the tax efforts (g_t) of the government authorities and their propensity to consume (g_c), i.e.

$$G_s = F(g_t, g_c) \qquad \text{where}$$

$$\frac{dg_s}{dg_t} > 0$$

$$\frac{dg_s}{dg_c} < 0.$$

Increase in growth of savings and increase in tax efforts are directly and positively correlated and increase in growth of savings and the rise in the propensity to consume are inversely related. In India, as matters stand, the marginal propensity to tax, though rising has come to be neutralised by the marginal propensity to consume of the government sector. As a result of rising marginal propensity to consume less and less of the tax revenue resources mobilised have been available for financing the growth of capital formation. The correlation between total revenues and net savings in the government sector is after all revealed to be very weak. Hence, for a higher growth rate there is a need for checking high marginal propensity to consume. Apart from containing public consumption for helping the growth of capital formation through taxation, there is a point in effectively mopping up the excess purchasing power generated in certain parts of the economy which are said to be undertaxed. To this question of in inter-sectoral inequality in the field of Indian taxation we will come a little later to show that there is yet much room for putting greater doses of taxation on selective basis.

Growth objective of taxation does deal not only with the rate but also with the pattern of economic growth. So aside from maximising the rate, attention is to be focussed on the attainment of such a pattern of growth which makes for a desired allocation of resources. Tax system, more particularly in a developing economy like ours, should be so designed as to promote, inter alia, the desired use of resources. Stress is here laid upon potential and not actual resource use. It is here that average potential output relating to potential resource use comes into relevance and becomes the tax base. Agricultural taxation is here a case in point where average potential output in agriculture is to form the basis of taxation and hence the inefficient farmers who do not reach the average potential level due to inefficient use of resources are penalised through taxation. Again, as for wealth taxtion the tax base is to be constituted by the assumed average rate of return on capital and here thus the conservative, risk-avoiding investors who due to inappropriate use of their investible funds do not get the assumed average of return are to pay the penalty. Such a tax system relying heavily on potential resource use, therefore, ensures efficient utilisation of resources. The cherished goal of taxation, here, is to bring in such a desired allocation of resources which corresponds to an optimally planned pattern of economic growth where resources are put to their best and desired uses.

It is not mere growth but economic development implying growth with fair distribution, growth with justice and welfare and growth with stability, etc. that has come to be the focal point of attention in the present world of economists. Equity principle of taxation comes to utmost importance alongside growth in the field of development. Tax system must do away with horizontal inequality.

This means that similarly situated persons should be taxed equally. Similarly situated persons may be the persons having the same surplus income or the same taxable income per capita or the same wealth, etc. Again, persons belonging to different income groups should be given a fair and equal treatment and interclass inequity must go. Well calculated progressiveness of the structure of direct taxation can ensure proper and desired redistribution of income, thereby realising vertical equity. What is more, tax system must ensure inter-sectoral equity. Of course, here the importance of 'functionalism' in the field of taxation should be duly recognised. As a matter of fact, all types of equities need co-exist with 'functional' inequity. This means that that type of inequity, well-controlled and regulated may be allowed to stay which helps the proper functiong of the economy. It is here that our idea is to try to keep the tax-made damage to work incentives, savings incentives, investment efforts, etc. to the minimum and here some relaxation in the field of taxation, even at the cost of certain amount of equities may be selectively allowed. 'Non-functional' inequities of all sorts must be ruthlessly destroyed.

In Indian situation the facts of life testify the persistence of inequities which can be brought into sharp focus if we look into the inter-sectoral and inter-class distribution of tax burden. Let us take, as first approximation, the measure of tax burden on the agricultural sector (B_a) as

$$B_a = \frac{t_a}{(Y_a - S_a)^{c_o}} \;\Big|\; 1 < c_o < 2$$

where t_a is taxes per capita in agriculture and Y_a and S_a are income per capita in agriculture and subsistence per capita in agriculture. And likewise, the tax-burden on the non-agricultural sector may be measured as

$$B_n = \frac{t}{(Y_n - S_n)^{e_o}} \Big[\; 1 < e < 2 \;\Big]$$

There is statistical evidence (as shown in Table I) indicating the existence of inequity in favour of the agricultural sector in India where tax burden has been proved to be inadequate as compared to much greater tax burden on the non-agricultural sector. Though the available data as presented here relate to the early part of 1960s, the pricture has not changed much since then.

One point of note, of course, in matter of the aforesaid measure of the tax burden is that this measure precludes some vital considerations like wealth per capita, the degree of income inequality, the index of wealth inequality, etc, and also the government expenditure per capita, indicating the extent of benefit done by the taxing authority to the taxpaying unit all of which determine, among other things, the taxable capacity. Hence, after including these factors, we may have a better measure of tax burden. As a second approximation, this measure (more improved than the earlier one) is put as

$$B=\frac{t-g}{f[y_t,W,i,w]e_0}\left[1<e_0<2\right]$$

Where the weighted value of taxable capacity, K, is shown to be functionally related to the four variables, y_t, W, i and w, that is

$$K=f[y_t,W,i,w]$$

$$\text{or, } B=\frac{t-g}{K^{e}{}_{0}}\left[1<e_0<2\right]$$

Here, g stands for government expenditure per capita, W wealth per capita and i and w the degrees of income and wealth inequalities respectively. As per this second approximation, as well, the value of B has been found to differ significantly between agriculture and the non-agricultural sectors in India (Vide Table II). Inadequate tax burden on agriculture admittedly goes to show that this sector of Indian economy is undertaxed. True that direct taxation in this economy could not reach the rural sector and the rural rich to the extent to which it could touch the urban sector and the urban rich. It has been estimated that during the period 1950-51 and 1961-62 the percentage of increased income taxed was 11.6 in agriculture as compared to 20.6 in industry. The percentage of income taxed in agriculture and the non-agricultural sector in 1961-62 was 5.9 and 13.2 respectively.

It is needless to point out here the significance of the role of agriculture in economic development. One type of factor contribution of agriculture is the compulsory transfer of fund from this sector to the other parts of the economy through taxation. Land tax or agricultural income tax, for example, can virtually mobilise the surplus from agriculture and make it available for the purpose of investment and capital formation which may well help the growth and expansion of the non-agricultural sector. The tax potential of agriculture in Indian economy still remains underexploited and hence the need for greater doses of agricultural taxation. Progressiveness of land tax has been aptly suggested which ought to be specially considered in our case. Here the proposal of Dr. J. M. D. Little merits consideration. According to Dr. Little, land holdings, divided into 26 classes depending upon the size from zero to 30 acres, have different rates of tax where the rates between 6 acres and 30 acres lie between Re. 1 and Rs. 15 per acre, holdings below 5 acres being exempted completely from the payment of land revenue. Dr. K. N. Raj suggested doubling of land tax on holdings above 5 acres and a surcharge on holdings above 5 acres under commercial crops including a tax on agricultural rent. The proposal for the reform of agricultural taxation given by Dr. A. M. Khusro also emphasised progressive land revenue on ground of propor resource mobilisation, inter-sectoral equity and intra-sectoral equity. Dr. Khusro suggested the following rates of land taxation :

(i) Holdings up to 5 acres	Rs. 3 per acre
(ii) Holdings between 5 and 10 acres	Rs. 5 per acre
(iii) Holdings above 10 acres	Rs. 10 per acre

One point of significance, of course, is that land taxation may be subject to revision depending upon changes in production and prices. However, land tax must be based on the potential average productivity of land and this type of average-potential output-based agricultural taxation conforms to the desired resource use in agriculture. Again, agricultural income tax and land tax must co-exist in which case there is no gap between the taxes agriculture is actually paying and what it is potentially capable of paying. Here both are to be treated as complementary to each other which amounts to a direct negation of the transfer of land from one use to another with a view to avoiding tax (say, from paddy cultivation to pasturing for avoiding agricultural income tax provided land tax does not exists). As for agricultural income tax in India, there should be building up of certain norm for maintaining a uniform pattern of this taxation throughout the country in as much as there exsit inter-state differences in the field of such taxation, this being the state subject unlike personal income tax which is administered by the central government.

What is more, the full potential of wealth tax in Indian agriculture has not been fully tapped. In recognition of it the Planning Commission while drafting the summary outline of the Fifth Five Year Plan in India put greater emphasis on the widening of the base of wealth tax and a levy on agricultural holdings. Coming to the cases of the affluent farmers who are mostly benefited by the improved high-yielding varieties method of cultivation and who form a very small percentage of the total farm population in Indian agriculture we find the need for agricultural income and wealth taxes and also surcharge on the uses of improved inputs varieties all the greater. Of course, government subsidy, easy credit facilities and the services of 'service co-operatives', where possible, are extremely necessary for making better seeds, improved fertilisers, pesticides, etc. available to the potential average small and marginal farmers, aimed at charging the dual chracter of our rural economy.

It is also obvious that the lower and upper income groups of the agricultural sector have been found to bear a significantly lesser average and marginal tax burdens than their counterparts in the non-agricultural sector. In this case, the extent of horizontal inequity between upper income groups of the two sectors, which is very much there in India, is much more serious than in the case of lower income groups. The increasing role of commodity taxation in Indian economy falling on monetised urban consumption and touching very little the rural sector has significant bearing on the increasing horizontal inequity between the similarly situated lower income groups of the two sectors. The loopholes in direct taxation and also the large-scale tax evasion consequent upon excessively high marginal rate of income tax, for instance, for the top income slabs (maximum rate is 77% as compared to 47% in Canada, 50% in Indonesia, 55% in Singapore 56% in W. Germany and 60% in France), in combination with excessive stress on indirect taxation, particularly excise duty, have given rise to vertical inequity and skewed distribution of purchasing power among the different income groups.

Hence, our approach need be oriented towards rationalising the structure of direct taxation not only by widening the tax base (as in agriculture wealth, etc) but also by bringing down its high marginal rate for the very high income groups that will fetch greater tax revenue and by selectively liberalising it in the corporate sector for stimulating investment and capital formation. Our tax criterion must be to maximise the tax yield without making more than minimum impairments to production, i.e., impinging the least on incentives. There should, after all, be an adjustment between the consumption use not only of the tax increment foregone but also of the amount of decline in production caused by taxation and the investment use of the marginal revenue increment of the tax.

Regarding indirect tax, the note of caution is that if, in excessive exuberance, there is a continuous increase in tax coverage and heightening up of its rate, the threat of mass taxation looms large that tears apart the democratic fabric of our economic set-up. This apart, excessive commodity taxation can result in demand recession in the market, thereby, dampening the investment and production incentives. Again, the rise in cost of living induced by indirect taxation, if compensated by a proportionate income or wage increase and credit creation, the situations of inflation can never fade away. In India the buoyancy and elasticity of indirect taxation has been proved to be higher than that of direct taxation and there has been a traditional emphasis on excise duly over time. In India excise duty accounts for 51% (sales tax 15%) of total tax revenue and indirect taxes, as a whole, as per cent of total tax revenue, have been found to rise from about 63.2 before 1950 to 66.3 during the First Plan, 70.2 during the Second Plan, 74.9 during the Third Plan and 79.3 during the Fourth Plan. The need at present is to supplement such tax efforts in the field of indirect taxation by rigorous fiscal and monetary discipline. Of cocurse, there is yet a scope to push commodity taxation far in the agricultural sector.

The questions of indirect taxation, direct tax efforts in effecting a cut in consumption, fiscal monetary discipline, etc. can well turn the spotlight of our discussion to stabilisation aspect of taxation. Indirect tax is inflationary unless it is accompanied by strict discipline on the fiscal-monetary front. It is really the great task ahead of the Indian fiscal authority to put the house in order in the midst of a situation where there is excessive emphasis on indirect taxation pari passu with overdoses of deficit financing and excessive credit creation. Scientific formulation of policy in this field (in case of indirect tax) requires following important considerations :

(a) Commodity-wise and sector-wise specification which means optimum choice regarding the specific commodity groups, i.e., capital goods, consumption goods, raw materials and intermediates and fixation of appropriate rates correspondingly as also specification of the area or sector to be mostly covered for the purpose ;

(b) proper assessment of the incidence of commodity tax by taking into account both the forward and backward shifting and not merely considering the formal incidence ;

(c) susceptibility of the economy to the monetary policy of 'controlled expansion' and to the fiscal discipline.

Tax policy, both direct and indirect, must have an eye to functionalism in the field of stabilisation. The idea of economic stability is compatible with the phenomenon of functional price rise. This type of price rise implies slow but steady rise in price level which, on the one hand, helps proper adjusment of investment activities through fair anticipatory calculation, the price behaviour being predictable and, on the other hand, makes possible policy adjustment for securing desired inter-personal distribution of income. Functional price rise, on mild inflation, has thus good investment and redistributive effects. It helps the proper functioning of the economy which is somewhat impossible in the case of inflationary price rise where there is rise in the prices of the factors as well as of the products which are produced with the help of these factors. This type of inflation may eventuate in a run-away or galloping inflation which must be avoided at all costs. Direct taxation including excess inventory taxation and tax on net value added (see the Appendix) and well-chosen commodity taxes supported by suitable fiscal monetary restraints should aim at eliminating non-functional price rise, root and branch. Only the tax policy cannot do the trick until and unless effective control on doses of deficit financing within its safe upper limit, and the policy of restriction regarding money supply and credit creation as well as proper income and wage policies supplement the tax efforts. The restructuring of our tax policy geared to the task of realising the three-fold objectives of growth, equity and stabilisation along the right royal road can virtually open up a new horizon on the fiscal front which is most welcome in the rapidly developing Indian economy.

APPENDIX

Excess Inventory Taxation and Tax on Net Value Added

In case of excess inventory taxation the idea is to tax heavily the businessmen who indulge in excessive inventory creation or over-investment on stocks. Excess inventory threatens to create certain pressure points within the economy, thereby generating economic instability. Such taxation, therefore, may go a long way towards alleviating the pressure of inflation. Through tax on net value added manufacturers or traders are taxed on the basis of assessment of the gross value of their production and sale minus the cost of raw-materials, depreciation cost and the cost of labour, i.e. wages. This tax can thus be designed in India which bears fruit in so far as the tax payers try to economise the sundry administrative and other expenses which are not exempted from the scope of tax on net value added. Hence, non-functional, or non-essential or unproductive expenditures can thus be curtailed and this has a definite anti-inflationary impact. On the side of raising revenue also, the excess inventory taxation and the tax on net value added find justification.

Table I

Tax burden on the agricultural and non-agricultural sectors
(First approximation)

Period	t_a	t_n	(Y_a-S_a)	(Y_n-S_n)
1950-51	Rs. 8/-	Rs. 36/-	Rs. 72/-	Rs· 141/-
1961-62	Rs. 14/-	Rs. 75/-	$[(Y_n-S_n)-(Y_a-S_a)]=2\frac{1}{2}$ times	

Table II

Tax burden on the agricultural and non-agricultural sectors
(Second approximation)

(In crores)

Period	W_a	W_n	i_a	i_n	w_a	w_n	g_a	g_n
1950-51	Rs. 602/-	Rs. 1157/-	0.35	0.38	0.62	0.70	Rs. 286 cr.	Rs. 286 cr.
1960-61	Rs. 695/-	Rs. 1647	0.34	0.42	..	..	Rs. 781 cr.	Rs. 651 cr.

Table III

Tax revenue as percentage of net domestic product

Year	Tax revenue
1960-61	6.7
1965-66	9.8
1966-67	8.7
1967-68	8.4
1968-69	8.6
1969-70	8.1
1970-71	8.8
1971-72	9.8
1972-73	9.7

Table IV

Sales tax and excise duty systems in some selected countries

(in per cent of total tax revenue)

Country	Sales tax	Excise duty	Total
Ghana	8	21	29
Ivory Coast	26	10	36
Nigeria	—	14	14
Tanzania	11	31	42
Iran	—	10	10
China	6	42	48
India	15	51	66
Japan	—	26	26
Nepal	15	16	31
Pakistan	6	38	44
Sri Lanka	11	27	38
Indonesia	12	19	31
Malaysia	—	35	35
Philippines	31	16	47
Singapore	—	40	40
Thailand	21	28	49
Brazil	50	17	67
Uruguay	19	27	46
Australia	7	19	26
Canada	16	12	28
Mexico	11	17	28
U. S. A.	6	15	21
U. K.	8	25	33
France	38	21	59
Germany	22	21	43
Sweden	13	21	34
Switzerland	9	20	29

Source : Finance and Development, March 1975.

N.B. (i) Revenue data are averages covering fiscal years 1969—71

(ii) (—) indicates that revenue is nil, i.e., in such countries there is no sales tax

Total Factor Productivity of Small Scale Firms

T. V. S. Ramamohan Rao* and Sarthi Acharya*

I. Introduction

Efficiency in the use of inputs or factor productivity has long been recognized as one of the major indicators of performance. Cross sectional studies, conducted from time to time, suggest that on an average the productivity of small firms is rather low. The chief difficulties appear to be lack of technical knowhow and financial troubles.[2] Various measures have already been adopted by the government agencies to improve productivity.

In a series of recent papers[2] we put forward the viewpoint that a thorough examination of the efficiency of discretionery managerial behavior can lead to suggesting means of toning up performance. We have demonstrated that this approach holds a much greater promise for establishing long run viability. The viewpoint contrasts sharply with the paternalistic approach of the governmental agencies and the financial intermediaries.

The primary purpose of this paper is to report on the causes of low total factor productivity. The results relate to three distinct samples of firms belonging to the light engineering industry in twelve districts of U.P. The survey data are obtained from Prasad and Rao (1975).

II. Some Hypotheses[3]

The concept of total factor productivity takes into account all the factors of production simultaneously. As a consequece it can provide a definitive idea about the effect of discretionary behavior on the performance of the firms. However, there have been many measures of total productivity and each one reflects a different

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1. See Acharya and Rao (1975 b) for details.
2. Of Acharya and Rao (1975 a, b), Rao and Acharya (1975, 1976.)
3. Detailed references can be obtained from Acharya and Rao (1975 b).

emphasis. For example, if we are interested in long term efficiency we need to inquire how all assets are managed. On the other hand a short run analysis deals with how resources committed for production in the short-run are utilized. We only study short-run behavior in this paper. Hence, value added per unit cost of production has been defined as the measure of total productivity.

One of the major hypotheses regarding the determinants of productivity is that the level of production in small scale units denies them privileges of division of labor. It may therefore be expected that as the volume of production increases there are economies of scale.

Productivity may be affected by capital intensity. For, a higher capital intensity embodies efficiency due to greater automation and better workforce management. This feature has been empirically validated quite often.

Underutilization of capacity may exist due to shortages of raw materials and power, demand conditions in the product markets and/or managerial miscalculation. Low capacity utilization, whatever may be the cause tends to imply a loss of productivity. We measure the index of capacity utilization by the ratio of fixed assets to total production.

The skill composition of labor becomes important whenever handling of various machines in an optimal manner is called for. The measurement of this variable is somewhat ambiguous. Skilled labor can be variously classified as technical, nontechnical, semi-skilled and so on and the theoretical specification does not indicate which of these should be included. We therefore used the ratio of wages paid to skilled technical and non-technical workers to total wage bill as a measure of skill composition.

The other important factor is the management of raw materials. It has been repeatedly pointed out by many observers that wastages in handling of machines and processing lapces resulted in wastages of utilities and excessive inventory reducing productivity. We adopted the ratio of cost of materials and utilities to total production as a measure of the efficiency in the use of materials.

Another dimension of materials management which also impinges on productivity is the risk factor. Most industrial enterprises, especially in the small scale, have been subject to uncertainties of raw material availability, their prices and so on The risks are measured by the variation over time of the average variable cost of production.[4]

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[4] This was one of our innovations. See Acharya and Rao (1975 a), Rao and Acharya (1975). In Acharya and Rao (1975 b) we found this to be a significant determinant of labor productivity.

III. Empirical Findings

A few features of the samples are exhibited in Table 1. One of the most important observations is that the total productivity measure shows sample 2 firms to be the most efficient, followed by sample 1 and sample 3 in that order. Capital intensity and productivity do not show the same trend. A high capital intensity per se cannot therefore bring in efficiency unless adequate management supplements the process.

The following results are obtained when the alternative hypotheses are tested for the three different samples :

$$\begin{array}{ll} \text{Sample 1 :} & TP=2.08-\underset{(5.25)}{0.38}\,CU-\underset{(11.19)}{2.44}\,MU,\ \bar{R}^2=0.87 \\ \text{Sample 2 :} & TP=2.35-\underset{(5.61)}{2.73}\,MU,\ \bar{R}^2=0.60 \\ \text{Sample 3 :} & TP=2.39-\underset{(1.86)}{0.25}\,CU-\underset{(10.82)}{3.01}\,MU+\underset{(1.36)}{1{\cdot}09}\,SKILL,\ R^2=0.92 \end{array}$$

Where IP—total productivity, CU—capacity utilization, MU—materials utilization, and SKILL—measure of skill composition. Further, the numbers in the brackets are the t-values of the corresponding coefficients.

Let us first consider the features that are common to all the samples. MU is a consistently significant variable in all the regressions. This points up the fact that materials management is deficient in all the samples. In addition, the magnitude of the coefficient increases with the size of the firm. Hence, materials are not equally as efficiently managed in larger firms as they are in smaller ones.

Capacity utilization is the other major determinant of productivity. In the case of sample 1 firms there is inefficient management of fixed assets and they do not plan production ahead but depend on orders.[5] Under these conditions we may expect these units to face relatively significant excess capacity causing inefficient uses of factors of production. Firms belonging to sample 3 have been found to be the greatest risk averters. Hence, whenever costs of materials go up they prefer to cut off production. They are also experiencing problems of collection of receivables.[6] The marketing problems and the unwanted inventories may be forcing them into less than full utilization of capacity. The evidence here is that it is a relatively long-run problem.

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[5] cf Rao and Acharya (1975).

[6] cf Rao and Acharya (1976).

Skill levels required by firms in sample 1 may be relatively low and the problem of acquiring appropriate workforce is not serious. The same cannot be said of the other two samples. Farms in sample 3 experience the problem most and over long periods of time.

IV. Conclusion

On the whole, it appeare that capital and materials management play a pivotal role causing total productivity to be what it is. Apart from this, our analysis indicates that skill composition of labor can have a significant effect on productivity.

Table I

Selected Features of the Data : Averages

S. No.	Feature	Units	Sample 1	Sample 2	Sample 3
I.	N		23	23	15
2.	PM	Rs. Thousand	31.21	111.22	389.94
3.	S	Rs. Thousand	169.59	736.24	1694.86
4.	CI	Rs. Thousand/ Worker	6.34	10·26	19.19
5.	TP		0.80	0.93	0.59
6.	CU		0.72	0.55	0.50
7.	MU		0.42	0.54	0.59
8.	SKILL		0.10	0.12	0.08
9.	RISK		1.02	1.08	0.98

Legend : N-no. of firms in the sample, PM-plant and machinery, S-sales revenue, CI-capital intensity, TP-total productivity, CU-index of capcity utilization, MU-use of meterials, SKILL-skill composition, RISK-risk variable.

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4. Rao, T. V. S. S., and S. Acharya, Structure of Production Decisions of Small Scale Firms.

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Breaking the Vicious Circle of Poverty : The Occupational Change Approach

Syed Afzal Peerzade*

Benjamin Higgins in his 'Financing Economic Development, (1955), coined a metaphor which he himself called as outrageously mixed metaphor, "the road to development is paved with vicious circles." This term was later on used by many economists and Ragner Nurkse explains this idea as "a country is poor because it is poor."

Poverty is not a new phenomenon in many underdeveloped countries. What is new in underdeveloped countries then is not the fact that they are poor but the fact that they have become aware of being poor and have grown increasingly determined to do something about it. This awareness and determination in turn are largely a product of exposure of the countries to the economic achievements of industrialized world. This is what some economists call as International Demonstration Effect. (I.D.E.)

The poverty problem is two-fold, the problem of rural poverty and problem of urban poverty. But it is the rural poverty which is the main problem and that urban poverty is only the backwash. The extent of poverty is more in rural areas than in urban areas because of the peculiar socio-economic conditions. When poverty in rural areas becomes much more explosive, automatically, the poorest will turn towards urban areas further worsening the atmosphere creating slums. If really we want to break the vicious circle we must attack rural poverty. The solution of poverty lies at village level itself.

The main cause of rural poverty is disguised unemployment. Disguised unemployment is most marked in agriculture where persons on account of pressure of population on land and joint family system may appear to be employed on the family farm without any con-

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sideration whether output is being produced or not by the marginal workers added. Marginal output is zero and in some cases it becomes even negative. Generally speaking, this is the situation where great majority of the poverty stricken of the world are located. In many of these Asiatic countries, population is already pressing against the available cultivable land in a thoroughly classic manner. Under such a condition population growth is not a stimulant to development as it was in the United States but a depressant. A certain proportion of of workers which is "surplus". can be siphoned off to other occupations and at the same time economy can produce the same volume or even more of agricultural output without any change in technique of production. Many writers have shown the possibility of using surplus labour as a source of capital formation. Nurkse considers that surplus labour can be utilized for the formation of capital which the underdeveloped countries are so much in need of. Therefore, there arises a need of transferring surplus labour from agriculture, that is, from primary occupation to secondary occupation. This is exactly what happened in most of the developed countries. There is plenty of evidence which indicates that those countries in the world which are developing most rapidly are also the countries which are undergoing a major structural change in the sense of a major redistribution of their labour force from relatively low paid to relatively higher paid occupations.

The developed countries of today were agricultural economies in the initial stages of economic development. According to A.G.B. Fisher in every progressive economy their has been a steady shift of employment and investment from the essential primary activities to secondary activities of all kinds and to a still greater extent into tertiary production. Collin Clark in his book "Conditions of Economic Progress" argues that there is a close relationship between development of an economy on the one hand and occupational structure on the other and economic progress is generally associated with certain distinct necessary and predictable changes in occupational structure. He writes, "A high average level of real income per head is always associated with a high proportion of working population engaged in tertiary industries...low real income per head is always associated with a low proportion of working population engaged in tertiary production and high percentage in primary occupation." It means that high rates of incomes are usually associated with secondary industries. When there are increased incomes it means increased savings, higher rate of capital

formation and speedier economic development. It was on account of the structural transfer in developed countries that they attained a high peak within a very short period.

The Degree of Effect of the Transfer

A study of economic development of countries like the United Kingdom, United States, Germany, Japan, and the U.S.S.R. reveals that there was some shift in occupation. This movement may take many forms ; the form which is best traced is the movement out of agriculture and allied occupations to secondary and tertiary activities ; and that this change in an occupational structure is a concomitant of economic growth.

American Case

Up to the close of Civil War agriculture was an important economic activity of the United States. But after the civil war there had arisen certain adverse tendencies. There was simultaneous development of industry. By 1920 the number of persons engaged in manufacturing industries exceeded the number of those engaged in agriculture. It was thus a period marked by agriculture losing its position as the predominant economic activity of the country. As years passed manufacturing gained more importance In 1800 the United States was an over-whelmingly rural country ; at present nearby three quarters of its population live in urban areas. In the United States development and urbanisation have gone hand in hand. Since development proceeded further in this nation than in most, new pattern of living in urban centres has emerged. In the year 1950, 64% of the total population was living in urban centres and it increased to 73% in 1970 and in 1950 36% of population resided in rural areas but it was reduced to 30% in 1960 and further to 26.5% in 1970. This shift from country to town of course, has been largely a reflection of profound shifts in the structure of occupations in which Americans have been engaged. If some would argue, the clearest sign of economic development is a decline in the percentage of labour force in agriculture, then there can be a little doubt of the pace of American development. From the community of 1800 with its 80% of labour force in agriculture, . the United States has shown a continually declining percentage over time until it is less than 5%. Combined with this great percentage of decrease in labour force in agriculture, there has been a marked increase in other employments.

We find similar trends in U.K. and West Germany. In West Germany the proportion of labour force engaged in agriculture fell from approximately 17% in 1956 to 11% in 1966. In France during the same period there was a similar fall in agricultural employment, from about 26% to 18%.

In Japan the availability for large well educated and well disciplined labour force contribued immediately to the reconstruction of economy and its subsequent growths. In the course of Japan's rapid economic development after the war, the demand for labour rose sharply, centering on the modern industries. At the same time this surplus of new labour increased the expansion of productive age population and much greater labour mobility. A major contributing factor to the supply of labour in those years was the wide-spread and heavy outflow of agricultural population to industry.

Table

Changes in the Ratio of Employment (Japan)

Year	Primary Industry	Secondary Industry	Tertiary Industry
1955	40.2%	24%	35.9%
1960	32.5%	27.8%	39.8%
1965	32.5%	27.8%	42.8%
1969	18.9%	34%	46.1%

This transfer of population along with people's strenuous efforts and American assistance accelerated the pace of development.

Change in the GNP and Per Capita NY of USA and Japan

In the foregoing analysis we have seen the transfer of population from primary industry to secondary industry and tertiary industry. This had a favourable impact on the NY and GNP.

Japan

Year	GNP Million	Per capita NY income (£)
1950	4,500	51
1960	17,900	148
1969	69,300	537

United States

Year	GNP Billion	Per capita NY
1950	340.000	2,200
1960	450.000	3,500
1970	700.000	3,500

Others: Germany, United Kingdom, Sweden

Variations in non-agricultural labour force and percentage change in rural income.

Country	Percentage increase in N.A. labour force	% in NY
Germany	26.2%	59.3%
United Kingdom	17.0%	37.7%
Sweden	38.1%	74.4%

From the above analysis it is clear that economic development was and is associated with the structural change in occupation. Transfer of population from primary industries to secondary and tertiary industries was a major cause of a rise in national income, rapid industrialization and a general improvement in standard of living.

According to Meir and Baldwin poor country has in essence six basic economic characteristics :

(1) It is primary producing ;
(2) If faces population pressure ;
(3) It has under-developed natural resources ;
(4) It has an economically backward population ;
(5) It is capital deficient and ;
(6) It is foreign trade oriented.

In Asia, Africa and the Middle East from two thirds to more than four fifths of the population earn their living in agriculture and from two thirds to three fourths of the population in most Latin American countries are engaged in agriculture. This pressure of population on agriculture results in—

(1) Low productivity and ;
(2) Rural under-employment.

The level of output per acre is generally lower than it is in the rich countries, as the density of agricultural population per acre is generally greater and average per acre yield is less. Further in many poor countries labour is relatively abundant factor, per capita output is low, the supply of labour remains larger than the demand. This affects the marginal productivity of labour and that is the reason why in most of the poor countries it is negligible, zero or even some time negative. Disguised unemployment is a result of joint family system, which is prevalent in most of under-developed countries, where the unit of production, that is land, is small and supply of labour is abundant. This disguised unemployment exists because the resources of family are too small to keep all the working members of family fully employed throughout the year and it is also because there exist no alternative opportunities for redirecting a part of excess labour supply into other occupations. If such labour under employment exists labour can be withdrawn from agricultural output and a general estimate is that in densly populated areas perhaps as much as 25% of agricultural labour force could be withdrawn from agriculture without reducing agricultural output. The problem of low productivity could possibly be overcome by greater use of capital, better techniques of production or more effective organisation. But poor countries also suffer on these counts. The only remedy, therefore, will be that of transferring a part of underemployed people and when a part of underemployed is withdrawn from agriculture it reduces the pressure of population and increases productivity. This labour which is abundant in supply would be less costlier and can gainfully be employed in other sectors. When these underemployed and seasonal unemployed are redirected into relative productive channels it increases on the one hand productivity and on the other it will be a source of additional earnings.

But the question of a million dollar is that where and how it should be transferred ? Whether this transfer would result in gain ? Alone transfer is not beneficial but it will create many fresh problems. The transfer could only be beneficial when there is some degree of economic development or only when the Government is ready to give.

Since, as we have seen three fourths of the poor are engaged in agriculture, any poverty oriented programme should necessarily focus on agricultural and rural development. The strategy for development should be so designed as to increase the productive capacity of small farmers and self-employed by providing them with the required assets and inputs and expand employment opportunities for unemployed and underemployed. The way outs are :

1. First, since surplus agricultural labour is a problem in most developing countries, low cost labour-using rather than capital-using techniques must be employed to the greater extent possibly in agriculture.

2. Secondly, since even labour intensive agriculture is unlikly to provide year round full employment, in rural areas with surplus labour "employment generating" minor development works with high labour content, the construction of feeder roads, irrigation and other water works—as well as social overhead facilities, such as school houses or

linical buildings, should be carried out with underemployed and easonally unemployed rural labour. To minimize housing and ransport costs, productive activities should be concentrated as much s possible on areas with the greatest excess labour. Local materials hould be used wherever possible, to provide employment and to educe transport costs. By using local labour to create some of the nfrastructure needed in rural communities the handicap of unemploynent of the labour force can be converted into an advantage.

3. Thirdly, small scale labour using light industries with low capital requirements should be established in rural areas to supplement employment opportunities in agriculture. Light industry should concentrate mainly on two kinds : (a) processing of agricultural commodities produced in the areas concerned, which might include fruit and vegetable canneries, flour and rice mills, wood breaking factories, creameries and milk power plants, sugar refineries and paper mills and processing units for cotton ginning and edible oils ; and (b) the fabrication of inputs for agriculture, such as cattle and poultry feed mills, fertilizers mixing plants, small tool making shops, and clay brick and tile works. Considerations of efficiency should not be abandoned to solve the problem of unemployment.

4. Fourthly, the agro-industries of the type using agricultural inputs involve weight or bulk losing processors and therefore have locational advantages if established near their sources of raw materials. Some of the second type agro-industries (those producing products intended primarily for the use of farmers in an area) have transport advantages when located near their markets. This is especially true if their products are heavy (such as bricks, tiles, etc) or bulk gaining (charrous, chicken breeders and seed drills) or if their major inputs can be purchased in large quantities (fertilizers for mixing or steel and wrought iron for food making). Many kinds of agro-industries of these types are well suited especially for rural areas.

Experience indicates that this combination—labour intensive agriculture, labour using minor development works ; agricultural oriented small scale and light industries, using labour intensive techniques with low capital requirements ; and an atmosphere of self-reliance—offers best prospect for development and wholly self-supporting agriculture which can in turn provide the increased income and savings.

In the process of development self-help is an essential foundation. Those communities which benefit from rural development must assume responsibility for raising a reasonable proportion of the resources. The total quantity of resources raised for rural development in most poor countries is likely to fall short of what is needed unless a portion of funds come from country-side itself—the best way is to challenge local authorities and institutions to provide a part of required finance, through taxation or otherwise, with government producing matching grants or using other appropriately devised incentive to reward results.

Further, a redirection of public investment to increase the physical assets and human skills of the poverty groups is indespensable to reduce rural poverty. Increased public expenditure in social infrastructure such as clean water supply, health and education will improve the productive efficiency. A determined will and strenuous efforts on the part of people and the Government are an essential prerequisite for creating a favourable atmosphere for development and if rural areas remain in poverty development is illusory.

INDEX NUMBERS OF WHOLESALE PRICES

(Base 1961-62=100)

	..............Week Ended..............		
	12. 6. 76	5. 6. 76	14. 6. 75
Food Articles	320.0	316.0	372.4
1. Foodgrains	296.4	295.6	399.2
(i) Cereals	295.8	294.0	386.9
(ii) Pulses	299.1	302.6	454.7
2. Fruits & Vegetables	331.1	309.5	294.1
3. Milk & Milk Products	330.2	321.5	366.7
4. Edible Oils	240.3	237.9	361.4
5. Fish, Eggs & Meat	634.7	645.4	557.2
6. Sugar & Allied Products	331.2	329.3	342.7
7, Others	314.9	304.0	301.3

The Public Debt Controversy : A Reply

K. T. Krishnan

The aim of my article[1] was to elucidate some of the misconceptions we had about the public debt. All throughout my analysis I had made it clear that the burden can be viewed only from an aggregate entity like a nation and not an identifiable individual. It might be worthwhile here to emphasize once again that in the universal set consisting of the entire nation, the capitalist and consumers are only subsets. While the universal set remains the same it might happen that the position of the subsets might get changed. But till such time the universal set itself is not changed, there is neither loss nor gain.

Mr. Gopal Krishnan has forcefully argued in his rejoinder[2] that a private capitalist cannot transfer the entire burden to the consumer by which he perhaps wanted to prove that private loans do not involve a burden. It is quite possible that in the short-run (or more appropriately, in the market period), if the manufacturer is facing a highly elastic demand curve, the cost-rise may not be reflected in the price. However, I would like to mention here that in the long-run, there is nothing like fixed cost. Everything becomes variable and hence, I hope my learned friend would agree that the cost of borrowing will have to be borne by the consumers. When we talk about public debt, we are more concerned with "generations". This "generation" has little relevance when applied to short-run or market period. Thus, for all meaningful disussions, public debt deals with long-run. Very rarely government obtains short-run loans.

Further, even in the short-run, due to the enormous difficulties encountered in finding out the marginal cost and dividing them among different factors of production, total cost—and not marginal cost—is a more relevant factor for deciding the price. Except for "market period", this "variable-cost-price" concept has no practical utility. It is a well known fact that rent and salary to permanent employees are fixed costs. It will be ridiculous to argue that these are not taken into account while fixing the price. Further the methematical formulation has its own drawbacks. If we assume that $D_\alpha=f(p)$, then mathematically, fixed cost has no influence on price. But our commonsense would tell us that in the case of monopolies where η_d is very near to zero but $\neq 0$ (thereby meaning that demand is still a function of price), the manufacturer would not hesitate to pass on the fixed cost to the consumer even in the short-run. Though this is a reality, my friend's demand function will not agree to this, because the first order derivative of any constant is zero. But in actual practice, whether or not the fixed cost has any influence on the price depends upon the slope of the demand curve. If the η_d is very low (say, very near to zero), then, even in the short-run the fixed cost will be passed on to the customer.

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[1] Krishnan, K. T. "The Public Debt Controversy", 'Economic Affairs', Vol. 21, No. 4, (April, 1976), pp. 129-34.

[2] Gopal Krishnan. "The Public Debt Controversy : A Rejoinder", 'Economic Affairs', Vol. 21, No. 6, (June, 1976), pp. 236-40.

Again, even if we asume that the cost increase is not passed on to the consumer, it in no way repudiates my arguments. Let us assume that the cost is not passed on to the consumer. The result is that the profit will get squeezed which will be reflected in the reduced dividends. In the earlier situation, when the price was increased, the welfare of the consumers was affected. In the new situation, the shareholders' welfare is affected. To say that the Income Utility Curve (IUC) of the share-holders (capitalists) lies to the left of the IUC of consumers' has no validity unless we know who the consumer is. In the case of luxury items, the consumers are definitely wealthy people and hence the earlier hypothesis has to be discarded. In fact, this income-utility concept which is the main straw on which the 'public-debt-burden' supporters base all their arguments, is itself disputable as could be seen shortly, Once this is disputed, the whole argument developed by my friend will fall like a house of cards and will have to be discarded lock, stock and barrel. However, for the time being, let us ignore this. It is quite possible that the luxury goods production has been financed by a large number of common share-holders (as is the case with most of the modern corportions). If this corporation borrows and if the interest-cost is absorbed by the share-holders, the situation becomes all the more worse. In the olden times, savings and therefore investments came from a few wealthy people. But now-a-days even a common man saves and invests. So, it is unrealistic to assume that all consumers are poor and all share/bond holders are rich. Moreover, when profits get reduced, the investment and therefore employment will get reduced. All this goes to prove that even if the cost is not passed on to the consumers, it will not change the welfare of the aggregate entity.

The role of a government as well as a corporation is to obtain finance/resources and use this for achieving certain objectives. In this sense, both act as middlemen, performing almost identical function. To say that one's activities involve burden either to this generation or to future generation while the other's do not, carries little logic behind it. Till such time they act as middlemen, what is applicable to one is applicable to the other also. It is in this sense I argued that corporate bonds are not different from government bonds.

The proposition that cost-absorption by bond holders involves less burden to the aggregate entity as a whole, perhaps has some meaning if we take the very old concept of private enterprise system, where a few capitalists owned and managed the private enterprises. But the private enterprises operating now are quite different from that of olden times. At that time, perhaps, these few private enterprise owners were wealthy. This "wealthy" qualification offered a convenient protection to many economists to argue that the IUC of the capitalists lay to the left of the IUC of the consumers. The assumption that IUC of rich man lay to the left of the IUC of a poor man itself is questionable and has not been conclusively proved. As Musgrave stated, "...The popular interpretation that the ability-to-pay doctrine requires progression is based on the assumption of declining marginal income utility. There is fairly general agreement among ability-to-pay writers that the marginal income-utility schedule declines when moving up from a very low to a medium income. There is less agreement for the higher income ranges. Mill, for instance, held that the sacrifice imposed by taxes which cut into subsistence outlays is 'incommensurably' higher than that imposed by taxes which cut into superfluities. But once this range is passed, he considers the case for progression 'too disputable altogether, and even if true at all, not true to a significant extent to be made the foundation of any rule of taxation'. The hypothesis of declining marginal income utility differs from the principle of diminishing utility as applied to the consumption of any particular commodity. ...Rising needs develop with rising income, and a person's marginal income utility is said to shift upward as his income rises. ...While most people accept the hypothesis of declining marginal income utility, there is less agreement regarding the *rate* at which the marginal utility of income declines."[3] With this, I will explain where my learned friend has misunderstood the whole concept. First, his assumption that corporate bonds cannot be compared to government securities (because of cost-absorption factor) is untenable. Because this holds true only for a firm whose demand curve is highly elastic and that too in the market period. In the short-run, as already explained, it depends upon the price-elasticity of demand and in the long run, all costs become variable and has to be borne by the consumers. Even if the cost is absorbed by the shareholders (capitalists), it does not mean less burden to the society as a whole. As stated above, this absorption will introduce a series of shifts in the IUC's rendering it almost impossible to mesaure the new situation. Thus, my friend's recommendation in the last para that each case needs to be looked into specifically, is practically impossible and no meaningful decision could be taken. In fact, the last para of the Rejoinder is a "weather forecast". Since nobody knows the rates which the marginal utility of income falls, it is quite possible that the rate is different for individuals. Thus, we would reach a situation where the IUC of two individuals intersect and any argument based on IUC becomes meaningless. This is a sitution that we will encounter when one is a manufacturer and the other is a consumer. Again, as discussed by Chapman[4] there could be discontinuity in the IUC of individuals. This makes my friend's argument still more weak. So, proving mathematically through simple derivatives that the cost is not passed on to the consumer and using this proof to show that the burden on the aggregate entity is less in private borrowing, does not lend any credence for his unsuccessful attempt to repudiate my hypothesis.

Mr. Gopal Krishnan has taken more pains to try to prove that the additional utility derived from consumption of public goods does not compensate the utility sacrificed due to reduction in the consump-

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3. Musgrave, Richard, A. "Theory of Public Finance", (London), McGraw-Hill Book Company. (1959), pp. 102-104.

4. Chapman, S. J. "The Utility of Income and Progressive Taxation," 'Economic Journal' (March. 1913), reproduced in 'AEA Readings in the Economics of Taxation', (Eds. Musgrave and Shoup), Vol. IX, Richard Irwin, Inc. (Illinois), 1959, pp, 3-12.

tion of private goods. The sole support for his argument is that it involves value judgment cannot be meaningfully applied. If so, I wonder how he can accept the consumer's equilibrium condition $\frac{u_1}{p_1}=\frac{u_2}{p_2}=\dots\dots\dots=\frac{u_n}{p_n}=u'$ (where u' is the marginal utility of money). It is very clear to everybody that there is no method other than value judgment to measure marginal utility of money and goods. Perhaps in his eagerness to dispute my hypothesis, he ignored his own inner contradictions. Further, it may be that the value judgement is involved in a few items of public goods such as social wants. But in the morden system, the government's supply social as well as merit wants. Merit wants are subject to pricing and any consumer can apply the equi-marginal utility concept to merit wants. In fact, the consumer surplus that an individual obtains from public wants is much more than the CS from private goods of a given expenditure. This is one of the basic reasons why such activities are undertaken by governments. So, increase in consumption of public goods does not compensate the reduction in the consumption of private goods. It actually overcompensates.

Ratchford has been quoted to prove that unless the bond holders and tax payers are identical, public debt, even though it is a diversion, involves burden because the aggregate entity is not a homogeneous group. A brief analysis would show how erroneous this is. Interest is a fixed return on investment while tax is a payment for satisfaction of public wants. Let us assume that two individuals X and Y hold government bonds of equal value. Also let us assume that both pay equal tax but public wants enjoyed by each are different.* Though Ratchford's condition is satisfied here, the burden in not equal. Let us take another example where X is a bond holder (but does not consume public goods) while Y is not a bond holder but pays tax (which is equal to the benefits enjoyed by him through consumption of public goods). If we further assume that the tax collected from Y is equal to the interest paid to X, then there is no burden anywhere in this transaction even though Ratchford's condition is not satisfied.

A real burden arises only if tax is collected without providing any public goods. In such a case, the burden is on that particular individual and cannot be shifted to future generation. Since consumer surplus obtained from public goods is much higher than the consumer surplus obtained from private goods, even an additional increase in taxation without providing additional public goods up to a certain stage will only mean a reduction in consumer surplus and not a burden.

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* This is possible due to the geographical differences and absence of perfect inter-governmental transfers.

Further, if this diversion involves burden, then I am yet to see even a single activity in this whole world which does not involve a similar diversion and hence a burden. Mention any activity, (public or private) and it will not take much time to prove that it involved burden to somebody. One can argue that in a poor nation where thousands of people starve, any investment on luxury items is a mis-allocation of resources implying a waste. And there are many such private investments. Since all activities and diversions involve burden, perhaps the only way open to us to avoid this burden is to close down all activities, be it private or public and for all of us to turn to meditation. I hope my friend will not advocate this. I do not dispute that all government activities are not equally productive. But, then, are there no wasteful expenditures in private enterprise system ?

The basic argument that public debt involved a burden arose from a group of old classical economists who held a very biased view that government was always inefficient. I doubt very much whether this term can be used for any morden government. From their early activities of supplying only social wants, the governments have travelled a long way to reach the present stage where they compete successfully in many fields with private enterprise system. The "burden of public debt" might have some meaning when governments were inefficient. To apply the same label even now will only show the slow rate at which economic theories have been made dynamic.

Planning To-day

Sankar Ghose*

India has completed twentyfive years of planned development. Starting from the First Plan (April 1951—March 1956), the country has formulated and implemented four five year plans, three Annual Plans and is in the third year of the Fifth Five Year Plan.

The Fifth Five Year Plan has completed two years of its five year span and is now running in its third year. It may be recalled in this context that the country has been experiencing increasing economic strain since 1971-72, first due to refugee influx that preceded the liberation of Bangla Desh and followed by occurrence of droughts and floods in large parts of the country, unprecedented hike in international prices of petroleum, sharp rise in domestic and international price levels, smuggling and black marketing, and dwindling respect for law and order.

The declaration of emergency and introduction of the twenty-point programme announced by the Prime Minister put a stop to this economic and political indiscipline and created conditions for a more orderly growth. As a result the Indian economy witnessed during the preceding year (1975-76) a commendable degree of price stability, substantial increase in agricultural production, especially of foodgrains, acceleration in induetrial growth, increased supply of various essential commodities and inputs and greatly improved industrial relations.

The most conspicuous feature of the economic scene during 1975-76 has been the reversal of inflationary trends. The downward trend in prices which began in October, 1974 was, on the whole, maintained during 1975-76. Even during the lean period between April and September, the wholesale index of prices moved within narrow limits ; but after the end of October, 1975 there occurred a significant decline in the wholesale prices. The wholesale price index in the last week of March 1976 reached 282.9, the level prevailing 2 years back and was lower by 7.9% than a year ago and by 14.4%

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* Excerpts of the speech of Shankar Ghosh, Union Minister of State for Planning, at the Delhi Study Group on June 18, 1976.

over end September, 1974. Even the average index for 1975-76 has been lower by 3.3% over that of 1974-75. This negative rate of inflation is by no means a mean achievement viewed in the context of the present international price situation

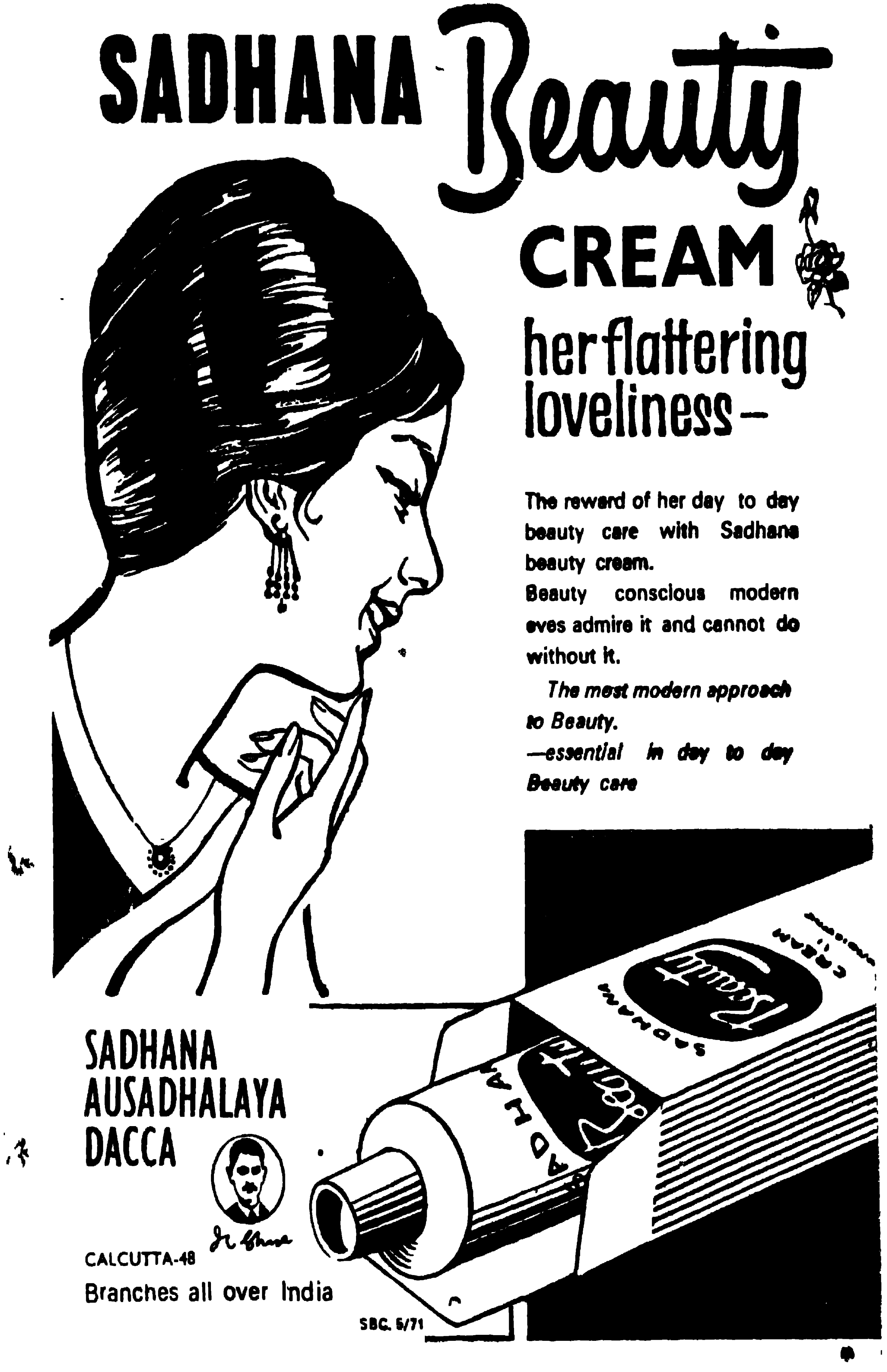
The current year's annual plan (1976-77) has been formulated against the background of these improvements in the overall economic situation. The basic approach of the Annual Plan 1976-77 is one of promoting growth with stability and social justice. The outlay of Rs. 78,520 million earmarked for it marks an increase of 31.4 per cent over the previous year's outlay of Rs. 59,780 million. This is the highest step-up in development outlay in any one year since the beginning of planning in the country.

The hike in development outlay in 1976-77 over the previous year is more pronounced in the field of agriculture, irrigation and power as also in industry and minerals. The provision for agriculture and allied services has been stepped up from Rs. 6914.1 million in 1975-76 to Rs. 8962.2 million, the increase being about 30 per cent. Besides, larger agricultural credit from financial institutions such as cooperatives, commercial banks, Agricultural Refinance Corporation, etc., are to be available as compared to 1975-76.

The target of crop production during 1976-77 will be 116 million tonnes of foodgrains, 10 5 million tonnes of oilseeds, 150 million tonnes of sugarcane, 7.5 million bales of 170 kg. each of cotton and 6.5 bales of 180 kg. each of jute and mesta.

The outlay for industry and minerals, which forms a substantial portion of the total investment in the public sector in 1976-77, has been increassed from Rs. 16440.2 million in 1976-76 to Rs. 21853.4 million in 1976-77, an increase of about 33 per cent. The outlook for industrial growth is promising. The position in regard to the availability of key input such as steel, coal, cement, power and transport facilities which has already shown improvement is likely to improve further. The installed capacity of power is likely to increase by 2.5 million KW in 1976-77. Railways are fully geared to handle the target or originating traffic of 225 million tonnes against 214 million tonnes in the previous year.

In order to make out planning successful, there is also the need of strengthening the planning machinery at the state and sub-regional levels. Today planning has to be viewed as a set of strategies in which we integrate our investment policies and organisational efforts for meeting the basic objectives of economy, namely, removal of poverty and achievement of a higher degree of self-reliance.



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- Restructuring of the Public Sector Banks of India
- Export Performance and Foreign Exchange Earnings: A Case Study of Jute Manufactures
- Importance of Jute Industry to the National Economy of India—Problems and Prospects of Export Trade
- The Jute Mill Industry: Its Problems and Solution

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LABOUR IN WEST BENGAL

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Contents

Editorial

317 Third Measure

319 Review

Articles

Vasant Desai
321 Restructuring of the Public Sector Banks of India

Tapan Ghosh
338 Some Technological Problems of Afro-Asian and Latin American Countries—a Rejoinder

343 Jute Under Competition

H. K. Sandhu
345 Export Performance and Foreign Exchange Earnings

R. P. Singh
360 Economics of Jute Cultivation in Selected Areas of Purnea District

P. B. Dey
367 Importance of the Jute Industry to the National Economy of India—Problems and Prospects of Export Trade

A. K. Sur
385 The Jute Mill Industry : Its Problems and Solution

Himansu Roy
389 International Tea Promotion Association : India's Point of View

ECONOMIC AFFAIRS

Volume 21 September-October 1976 Nos. 9-10

Third Measure

There are now different processes of persuasions of the rich nations for meeting the gap between the rich and the poor nations. The President of the World Bank Group Mr. R. S. McNamara is, in his own ways, persistently addressing the rich nations to libarally help the poor nations to save them as well as the world economy from submersion. In his Manila Speech on 4 October this year he submitted statistical data to establish how poor are the poor nations and how emergent it is to help them. He pointed that the per capita income, in constant US dollar 1975, of the poorest nations (below $200), covering a population of 1200 million, of $150 in 1975 might be projected to $180 in 1985; while the developed nations covering 700 million people would show a rise in per capita income from $5500 in 1975 to $8100 in 1985. This means that the poorest nations are getting poorest at a relatively lower level; the poor-rich gap is widening further. Still more, 700 million people of the poorest nations live on less than $100 per year and many of their human needs go unmet. He earnestly submit the case of the poor nations to the conscience of the rich nations for more concessional aid, reallocation of the existing aid, more capital flows to these nations, and eliminations of tariff and non-tariff barriers against these countries. He suggests that there should be a basic understanding among the rich and the poor nations on the nature and magnitude of the problem, the action require to address it, the relative responsibilities, and the costs and benefits to each of doing so.

The non-aligned nations have evolved a novel way of persuading the aligned (the rich) nations. They show both anger and hunger through cooperation on certain issues and non-cooperation on certain others, sometimes showy, sometimes real. This duality is for the inner contradiction it bears. The nonaligned nations are a mix of the poorest and middle income nations with opposing national interests, international obligations, bilateral relations, and ideological outlook. As a result each is aligned more to the 'aligned' than to the nonaligned, which can provide pious resolutions but not aid for food.

The UNCTAD is another forum whose main object is to beg out alms from the portfolios of the richest nations.

China, under the command of Lin Piao in 1965, spelled out a different and distinct line of approach to the rich. He proclaimed that 'class struggle' by the end of 20th century would be between the rich and the poor nations, rather than within the nations. This may be a dangerous proposition, nonetheless is an opening out that the eventual end of meeting the 'gap' is rough, although not illogical.

Taken this way or that the fact is the dependence of the poor nations on the rich ones is absolute and great. This is only half-admitted by some of the poorest nations. And where the interests of the rich nations are in sharp opposition to those of the poor nations the latter shall have to give way. It would be a futile exercise to make an attempt to create a world within a world to collect strength for a democratic dialoguing with the economically stronger. This sort of trade unionism is not only degenerating in effect but also make those in power more powerful by giving them an opportunity to get more united for dividing the helpless poor nations. A "harmonious world society, in a new concept of human emancipations" can be possible if *all* countries are imbibed in this feeling of humanity. But to think in terms of allness at this stage of unevenness of the world's mental and material balance is to exceed the limit of the present-day reality. The alternative to submssion, persuasion and threat is to stand on one's own legs. This may slow down the growth rates of the poor nations but not without slowing down the growth rates of the rich nations digging them to find out the necessary means to adjust their economies in the completely changed conditions. The time has come to make the rich nations understand by pressure of reality that the poor nations may go without them but they cannot go without the poor nations. The poor nations should dislike creation of a world within a world of any sort by any power. If it is forced upon them still their dream of building up a harmonious world will not remain unfulfilled over time ; for their self-advance may be slow but, in a spirit of determination, shall be certain and balanced.

Review

The Coming of Post-Industrial Society, Daniel Bell, Arnold-Heinemann Publishers (India) Private Limited, New Delhi, Price Rs. 50 00.

Complete in six chapters Mr. Bell poses a great problem for the communist world and throws enough food for the materialist world to think about the form, content and problems of the post-industrial society. In Chapter one he presents the run from the industrial to post-industrial society having the theories of development in support ; in Chapter two he dwells with the changing shape of the economy ; in Chapter three comes the emergence of new class structure ; in Chapter four the subordination of the corporation is discussed ; in Chapter five has taken place the social choice and social planning ; in Chapter six is raised who will rule and also given an agenda for the future.

Citing elaborately the authorities Mr. Bell has harassed a lot the Marxians raising the problem of bureaucracy in the works of Marx and endorsing the view that the USSR is "the nation most advanced toward managerial society". Mr. Bell does not believe in convergence theory ; on the other hand he believes in the management of bureaucratic and authority relations : "A post-industrial society is based on services. Hence, it is a game between persons." There the nature of the conflict will be between the professional and the populace. In his estimate the technical intelligentsia will rise up to hold the power by dint of its double position ; position in both research and administration. His open conclusions are, however, "First, the major class of the emerging new society is primarily a professional class, based on knowledge rather than property. But second, the control system of the society is lodged not in a successor-occupational class but in the political order, and the question of who manages the political order is an open one." He then philosophises, with some pains, that 'reality is primarily the social world', where men replace Nature. That is society is made, remade and driven by men. What remains obscure is man's relation to Nature or the Nature's relation to man at any period of time.

Dina Irrigation Project: A Bench-Mark Survey, B. R. Dhekney and S. A. Deshpande, Department of Economics. Nagpur University, 1976, Price Rs. 15 00,

In the Foreward writes Mr. D Y. Gohokar, Vice-Chancellor of the Nagpur University, that "The main value of this monograph lies in the fact that it would constitute a very useful basis on which future development in the Command area can be measured and assessed It is, therefore, eminently necessary and desirable that social and economic conditions in the Dina Command area are surveyed at regular intervals of time. The monograph provides a datum-line for subsequent research in the area." From this point of view the monograph is a considerable success. The authors have aptly warned the authorities that "The people in the region are deeply rooted in poverty, percentage of literacy is very low, means of transport and communication are meagre, credit institutions are few and the so-called Green Revolution has yet to make its appearance in the area. The capacity of the project to initiate development must be judged in the background of the these socio-economic conditions". But they seem to have overemphasised the lowlessness of the people of this area in relation to all-India figures. To quote a few : literacy percentage is 20.6 ; average size of family is 4 85 ; working population is 42.9 per cent (as against 42 in the District and 37.2 per cent in the State) ; percentage of cultivators is nearly 55 : quite a large percentage of the households has the advantage of some form of irrigation ; and 35 residential houses have electricity. The prospect of Dina project should therefore be expected as bright. What is of concern is "It has been found in many instances that production potential created by new irrigation works is not fully utilized over long periods of time for various reasons." The very-same Dina project was first conceived in 1911 ; revived by the M.P government in 1956 to irrigate 37,000 acres at a cost of Rs. 113 lakhs, and due to delay of imlementation the re-estimated cost rose to Rs. 361.45 lakhs to irrigate 30,500 acres, not earlier than in 198[illegible]-85. The authors have rightly and boldly pinpointed this typical character of Indian planning and project implementation.

Restructuring of the Public Sector Banks of India

Vasant Desai*

Inaugurating the first meeting of the Second Banking Commission, Mr. Pranab Mukherjee, Minister of Revenue and Banking, called upon the members of the Banking Commission to examine and recommend such changes in the structure of public sector banking as would further the socio-economic objectives and promote operational efficiency. He further emphasised that the proposed reorganisation of banks should aim at optimum number of units, the need for a 'deeper and more direct involvement' of the nationalised banks in the process of rural development, accelerated progress towards balanced regional growth, closer links between the banks and other credit and developmental agencies at different levels and commercial viableness. As regards training facilities for banking personnel, Mr. Mukherjee stressed that motivation of the employees was very essential for the successful functioning of banks. He asked the Commission to examine the existing training facilities and suggest measures to ensure their ability to serve in rural areas and provide assistance to the weaker sections of society. The Department of Banking is seized with the problem of existing regional imbalances, need for the development of backward areas and the credit gaps in the rural areas. This is the herculean task before the Indian banking system. More so, with the public sector banks. Fifty Regional Rural Banks are not by themselves meet the agricultural credit, which is estimated to be of the order of about Rs. 5,000 crores at the end of 1980, and also of the needs of the weaker sections of the society in rural and seme-urban areas. The Banking Commission has the onerous job of restructuring the public sector banks keeping in mind the role of the banks in meeting the socio-economic objectives at the same time maintaining economic viability of the banks and providing efficient customer services.

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* Bombay.

Banking Commission Plan

The Banking Commission 1972 recommended the restructuring of the nationalised banks into two or three all-India banks and five or six other banks each specialising in developing banking services in a broad region. While recommending the restructuring of the nationalised banks, the commission took into account the findings of a study on the relationship between the costs and size of a bank, which revealed that the size of a bank measured in terms of deposits can be quite substantial before it begins to suffer from dis-economies of scale. The Commission had indicated that the proposed restructuring of the public sector banks might be carried out on the following lines : (a) It should be such that a fair proportion of well developed areas and backward areas are allotted amongst the consituted units. That is to say, there should be some measure of equalisation of both the nature and volume of banking business amongst the different units to be formed on restructuring. (b) As far as possible, the units should be compact ones operating over areas that are geographically contiguous. (c) The customer should generally have a choice of at least two or three banks particularly in large centres of population. (d) The State Bank and a couple of other banks which have a fairly large network of branches all over the country should not be disturbed. The Commission, however, has not named the banks which it had in mind in this connection.

The organisational set up of the restructured banks should provide for decentralisation of work at branch offices and setting up of zonal offices for control and guidance of 200 to 300 branches.

The Commission has also recommended that at the end of 10 years from the commencement of the reorganised banks, there should be a comprehensive review of the manner in which the all-India and the regional banks have worked, the size which they have attained and the further organisational changes that will be necessary in the light of future development of these banks.

With a view to looking at the issue of reorganisation of the Indian Banking System with special reference to the public sector banks, it is essential to look at the issue more pragmatically and in retrospect.

At attempt has been made in this paper to present a view point and a number of probable alternatives based on the past performance during the last six years (1969-75), and viability of management with an eye on the future development.

Process of Nationalisation

During the 27 years following the enactment of the Banking Companies Act, 1949, the Indian Banks have undergone substantial changes. The banking system endeavoured to adapt itself to the changing economic, political and psychological scene under planned development. Broadly, the period witnessed the Reserve Bank's efforts towards the institutionalization of savings in order to orient the credit system to the needs of a developing economy and the consolidation and strengthening of the banking structure and organisation, with a view to improving the services to the country and, at the same time falling in line with the plan objectives.

As a first step, the Government nationalised the then Imperial Bank of India into the State Bank of India on July 1, 1955. This decision was in pursuance of the All India Rural Credit Survey Committee's recommendation. The AIRCS report empasised the urgent need for an accelerated pace of branch expansion in banking in rural and semi-urban areas in the country through the creation of one strong, integrated, State-sponsored, State-partnered commercial banking institution with an effective machinery of branches spread over the whole country, which by further expansion could be put in a position to take over cash-work from non-banking treasuries and sub-treasuries, provide vastly extended remittance facilities to co-operative and other banks, thus stimulating the further establishment of such banks, and generally in their local operations in so far as they have a bearing on rural credit, and could follow a policy, which while not deviating from the canons of sound business would be in consonance with national policies as expressed through the Central Government and the Reserve Bank.

The Government's decision to obtain control of the Bank was motivated by the need for a strong institution thorugh which the Government could inject credit into the vast rural area and garner savings in these areas for the benefit of the economy. It nationalised the Imperial Bank not because it was dissatisfied with the management or its operation by foreigners but because it thought that the nationalised institution could serve the nation better. This point was made clear by Mr. C. D Deshmukh, the then Finance Minister, in his address to Lok Sabha ; he observed "The policy which I have just announced is a further illustration of our practical approach to the economic problems to which I referred earlier. It is not any doctrinaire plunge into nationalisation. It merely seeks to give control of a sector of commercial banking in order to facilitate a comprehensive development of banking and the extension of credit facilities to important sectors of the economy at present not adequately served".

An effective integration of the State-associated banks into the State Bank of India was considered necessary for meeting the objective. It was considered necessary to retain the regional character of these banks, at the same time get the benefit of their close association with the concerned State Governments and allow them to function as independent banks under the management, control and supervision of the State Bank of India. Accordingly, the State Bank of India (Subsidiary Banks) Act was passed in 1959 and the following State-associated banks were taken over as the subsidiaries of the State Bank of India.

	Name of the Bank taken over	Establishment	Constituted as subsidiary on	Name of the Subsidiary	Paip-up Capital (Rs. lacs)	Share Holding of SBI. (%)
1.	State Bank of Saurashtra	1902	1.5.1960	State Bank of Saurashtra	100	100.0
2.	Bank of Mysore Ltd.	1913	1.3.1960	State Bank of Mysore	100	58.5
3.	Bank of Patiala	1917	1.4.1960	State Bank of Patiala	35	100,0
4.	Bank of Indore Ltd.	1920	1.1.1960	State Bank of Indore	35	81.1
5.	State Bank of Hyderabad (Formerly known as Hyderabad State Bank	1942	1.10.1959	State Bank of Hyderabad	50	100.0
6	Bank of Jaipur Ltd.	1943	1.1.1960	State Bank of Jaipur*	80	93.2
7.	Bank of Bikaner Ltd.	1944	1.1.1990	State Bank of Bikaner*		
8.	Travancore Bank Ltd.	1946	1.1.1960	State Bank of Travancore	100	76.6

* The State Bank of Bikaner took over the State Bank of Jaipur on 1.1.1963 and was renamed 'State Bank of Bikaner and Jaipur.

Towards the end of 1965, a beginning was made in bringing credit activities of banks more in alignment with the planning policies. A scheme known as 'Credit Authorisation Scheme' was ntroduced in November 1965. Although the banking system grew in strength and stability during the last forty years, it was deficient in terms of geographical and functional coverage and was not properly equipped to assist the attainment of the basic economic and social objectives, namely, rapid economic growth, diffusion of economic power and channelling of credit in accordance with the priorities of the plans. It was felt that the pattern of ownership and organisational set-up resulted in the control of commercial banks by large industrial and business interests and in the neglect of the flow of credit to the rural and semi-urban areas as well as to the priority sectors like agriculture, small industries and exports and weaker sections of the community like small artisans and transport operators

The scheme of social control over banking was introduced in 1968 with the main objectives of achieving a wider spread of bank credit, preventing misuse, directing a larger volume of credit to flow to priority sectors and making it a more effective instrument of economic development. It was considered necessary to evolve proper guidelines for bank managements and to promote reorientation of their decision-making machinery, so that the decisions of monetary and credit policy formulated by the Reserve Bank of India would be effectively implemented. It was also felt that a purposeful and equitable distribution of credit should be ensured with the help of periodical assessment of the demand for bank credit, determination of priorities for lending and investment among various sectors of the economy and adequate follow-up of these by the banking system.

The National Credit Council (NCC) was set up in February 1968 with a view to providing a forum for discussing and assessing credit priorities on an All-India basis. The main functions of the NCC were periodically (a) to assess the demand for bank credit from the various sectors of the economy ; (b) to determine priorities for the grant of loans and advances, or for investment, having regard to the availability of resources and requirements of the priority sectors in particular of agriculture, small scale industries and exports, and (c) to co-ordinate lending and investment policies as between commercial and co-operative banks and specialised agencies to ensure optimum utilization of resources.

Although the banking system had taken certain steps for achieving the objectives of social control, the progress made in this regard was not adequate. With a view to ensuring that banks were adequately motivated towards a speedy achievement of the social purposes such as meeting the legitimate requirements of the weaker sections of society, fourteen major Indian scheduled commercial banks were nationalised on July 19, 1969.

Nationalisation of the 14 major commercial banks is an important and significant economic step in the direction of banking reforms initiated with social control of banks. Though nationalisation of banks has been enforced by political compulsions, it should be lifted from the political controversy if one wants to draw a correct picture of the situation. It is necessary to recapitulate its objectives for spelling out specific tasks and to draw up a tentative programme of action. The important objectives of bank take-over have been :

(a) Diversification of the pattern of lending following the change in ownership of banks in favour of priority sectors, weaker sections and backward areas ;

(b) to create and foster new and widespread diffusion of entrepreneurial ability for economic development ;

(c) Finance should now lead economic development ;

(d) Evaluation of potential credit-worthiness of customers, especially, the small borrowers. (This requires a new strategy to accelerate the flow of credit to the neglected areas) ;

(e) Organisational and functional reorientation of banking sustem to facilitate healthy growth ;

(f) Professionalisation of banks.

Post Nationalisation

During the post nationalisation period up to April 1976, 12,677 new branch offices were added to the branch network of commercial banks raising the total to 20,817 and as a result of this, the average population per bank office has been reduced considerably from 65,000 in June 1961 to 26,000 in April 1976. This apart, a significant development in 1975 was the setting up of 20 regional rural banks covering 35 districts in the country. These 20 banks have opened 72 bank offices. It is proposed to open 19 more regional banks in 1976 and each of these 39 banks is expected to open 20 branches each and collect about Rs. 1 crore for each bank during the next three months. Thereafter 11 more rural banks would be set up in the country in

1977. What is more, the scale and scope in banking operations have undergone substantial changes, in response to the changes that have been taking place in the social, political and economic environments. In addition to meeting the increased and varied demands from the traditional markets, new markets have been brought into the banking field, entailing in the process the adoption of new marketing practices and calling for an entirely new approach and a significant change in attitudes. And banks have entered the phase of innovation. In the result, entirely new ground has been broken, through imaginative and innovative process in identifying and meeting the financial and counselling requirements of various weaker sections of the community like tribals, harijans, scheduled castes, prisoners, prostitutes, physically handicapped and disabled, orphans, lepers, slum dwellers and several others hitherto not so familiar to banking sector like cobblers, bone collectors, butchers, hawkers, mobile barbers, vendors, middle-class house-wives, traders, self-employed, under-employed and women workers, students and industrial workers.

Statistically, total deposits increased by Rs. 10,410 crores (or 224.1%) from Rs. 4,646 crores in June 1969 to Rs. 15,056 crores in June 1976, representing an average annual growth rate of 32 per cent. The per capita deposit increased from Rs 86 to Rs. 245. Of the incremental credit, the public sector banks contributed 84.9 per cent (Rs. 8,835 crores). Simultaneously, there had been a diversification of bank lending. Bank lending to priority and neglected sectors—agriculture, small scale industry, transport operators, retail trade, small business, professional and self-employed education, export and food procurement, went up by Rs. 4,332 crores from Rs. 995 crores in June 1969 to Rs. 5,327 crores in April 1976. The share of these sectors of the bank credit thus rose from 27.6 per cent to 48.6 per cent. Traditional advances to medium and large industries increased by Rs. 3,035 crores from Rs. 2,605 crores to Rs. 5,640 crores. As a result, the relative share in the bank credit stands reduced from 72.4 per cent to 51.4 per cent.

Public Sector Banks

Public sector banks comprise of the State Bank of India, its seven subsidiaries and fourteen nationalised banks. While the nationalised banks are wholly owned by the Central Government, the State Bank of India is preponderantly owned by the R.B.I. Of the subsidiaries of the S B.I. three banks viz. S.B.H., S B.P. and S.B.S. are wholly owned by the S.B.I. and in the remaining four subsidiaries, the S.B.I. holds the preponderant shares with minority share holdings by the public. As at end of June 1976, the State Bank of India and its subsidiaries accounted for about one-third of the banking business. Deposits of the State Bank group stood at Rs. 4,348 crores or 28.9 per cent of the total. While, deposits of the 14 nationalised banks accounted for Rs. 8,359 crores or 55.5 per cent of the total. Thus the share of the public sector bank stood at 14.4 per cent.

Paid-up Capital

During the six years, only two banks—Indian and Indian overseas—transferred Rs. 1.11 crores and Rs. 1 crore respectively from reserves to capital. As a result, the paid up capital increased by Rs. 2.11 crores to Rs. 41.62 crores.

Reserve Fund and Other Reserves

Public sector banks have added Rs 88.13 crores to reserves, raising the total reserve fund to Rs. 146.64 crores. Last year, State Bank of India transferred Rs. 20 crores from its sector reserves. Since all the public sector banks are Government owned, it is feasible that all banks should transfer 50 to 75 per cent of their secret reserves to reserve fund, so as to strengthen the capital base. Among the public sector banks, State Bank of India added Rs. 56.48 crores to their reserve fund raising it to Rs. 70.83 crores. Seven subsidiaries added Rs. 1.76 crores only, while the 14 nationalised banks have added Rs. 29.89 crores—varying between Rs. 0.30 crores by Indian Bank (lowest) and Bank of India (Rs. 3.95 crores highest). Central, Baroda, Punjab added more than Rs. 3.50 crores, Canara, Syndicate, United added more than Rs. 2 crores, Indian overseas and Union added more than Rs. 1.50 crores and the other four banks added less than one crore. As on December 1975, the reserves of Central Bank of India and Bank of India stood at more than Rs. 10 crores.

Branches

Public sector banks have opened increasingly large number of bank offices through their planned branch .expansion programme. During the period 1969-1975 'public sector banks' offices increased by as many as 9,074 or 123.9 per cent to 16,400. This process of opening large number of offices were assisted by a vigorous branch expansion programme by the State Bank of India which also had the benefit of the Integration and Development Fund. The bank offices of the State Bank of India increased by 2,163 to 3,831. The seven subsidiaries opened 848 offices raising their total to 1,814. Whereas the main thrust to branch expansion came from the 14 nationalised banks. The offices of the nationalised banks increased by 6,063 (129.2%) to 10,755. Among the nationalised banks, the offices of the Bank of India, Central Bank increased by 628 and 624 respectively. In the lower bracket, I O.B., United Bank of India and Bank of Maharashtra opened 280, 287 and 290 branch offices. The other banks have contributed substantially. As at end December 1975, Central with 1,297 branch offices leads the other nationalised banks. Punjab National with 1,202 branch offices stands second. All the other had more than 450 branches. As regards branch expansion, the public sector banks have become viable units. The future growth of branch expansion by the public sector banks is likely to be guided by the government policy of strengthening the economy. While the Regional Rural Banks are likely to cater to the needs of the rural economy, the public sector have to play a crucial role in other centres, more particularly in Metropolitan and Urban centres. Having considered the various constraints, during the next five years, the public sector banks are expected to open 8,600 branch offices as against 9,074 during 1969-75, raising the total to 25,000. These process of branch expansion means opening of branches on an average rate of 1,720 branch offices per annum. Further the time is used for consolidation, strengthening and offering better customer services.

Deposits

Deposits which are known as 'stock-in-trade' are the life blood of public sector banks. They are the mainsay of the banks and account for about 90 per cent of bank liabilities. The performance of deposit mobilisation of the public sector banks during the six years under study was keeping in line with the general pattern of growth. During the period, public sector banks mobilised Rs. 8,727 crores or 193.1 per cent, raising the total aggregate deposits to Rs. 13247.66 crores at end December 1975. On an average the deposit accretion was of the order of Rs. 1,445 crores per annum. Of the aggregate State Bank maintained the lead by mobilising Rs. 2,483.70 crores, nearly 28.5 per cent of the total deposits. On an average State Bank mobilised Rs. 414 crores per annum increasing from Rs. 1114.11 crores to Rs. 3597.81 crores. Seven subsidiaries together raised the level of deposits by Rs. 480.90 crores (137.7%), from Rs. 349.29 crores to Rs. 830.19 crores at an average rate of Rs. 80.15 crores per annum. Among the public sector banks, the rate of growth of deposits of the subsidiaries was the lowest. The fourteen nationalised banks raised Rs. 5,762.48 crores of deposits (188.5%), raising their level from Rs. 3,057.18 crores to Rs. 8,819.66 crores, at an average rate of Rs. 960.41 crores per annum. The share of the 14 banks in the aggregate accretion of deposits was 66 03 per cent in the total. Among the nationalised banks Bank of India mobilised the highest amount of deposits—Rs. 692 22 crores, while Allahabad Bank mobilised Rs. 174.16 crores—lowest. In terms of the rate of growth Indian Bank's (309.1%) performance was the highest and Central Bank's growth was lowest at 135 8%. The other banks, who have mobilised deposits more than Rs. 500 crores are Bank of Baroda (Rs. 643.51 crores), Canara (Rs. 526.91 crores), Central Bank of India (Rs. 679.78 crores), Punjab National Bank (Rs. 570.16) crores. All in all, Central Bank of India and Bank of India crossed the Rs. 1000/- crores mark at end December 1975. And Bank of Baroda and Punjab National Bank are nearer to the mark.

In order to accelerate the rate of deposit mobilisation, public sector banks have introduced a number of attractive and long-term deposits schemes. On the basis of the past performance, it is envisaged that the public sector banks' deposits are expected to rise by 225 per cent in the next five years. In absolute terms, the banks will add an additional amount of Rs. 16,572 crores raising to total amount of deposits to Rs. 30,000 crores at end 1980. This order of deposit growth is the barest minimum required to enable the banks to meet the growing socio-economic obligations and also to honour the commitments in hand and thus sustain the image of a progressive banking system, without, of course, putting undue pressure on liquidity. Achievement of this deposit goal is, therefore, a primary challenge to the public sector banks, calling for all-round vigorous and sustained efforts, almost on a war footing, all throughout the next five years.

Advances

In keeping with the Reserve Bank's Credit Policy guidelines, the advances of public sector banks increased by Rs. 5,850.25 crores, from Rs. 3,193.37 crores to Rs. 9,043.62 crores. Of which, the share of the State Bank of India (Rs. 1659.66 crores), Subsidiaries (Rs. 294.32 crores) and 14 nationalised banks (Rs. 3,896.27 crores) accounted for

28.37 per cent, 5.03 per cent and 66.60 per cent respectively. Here too, as in deposits, the pattern of growth of advance was highest for the State Bank (197.3%), Nationalised Banks (183.2%) and Subsidiaries (102 3%). Among the nationalised banks, advances of Bank of India increased by Rs. 514.14 crores (highest) and that of Allahabad Bank by Rs. 95.63 crores (lowest).

On the basis of the past performance, it is envisaged that the level of advances is expected to increase by Rs. 10,956 crores to Rs. 20,000 crores. On this reckoning the credit-deposit ratio at end-December 1980 works out to 66.66% as against 68.3%.

Credit to Priority Sectors

The outstanding feature of the public sector banks' lending operations during 1969-75 was the stringent advance in their social involvement as reflected in all-round and impressive growth in financing the priority sectors both in terms of number of new accounts financed and in the amount advanced. The total advances to priority sectors—agriculture, small scale industry, transport operators, small business, retail trade, professionals and self-employed and education stood at Rs. 436.59 crores spread over 2,46,456 accounts as on June 1969 (pre-nationalisation of the 14 major banks), of which, State Bank and its subsidiaries together lent Rs. 202.92 crores spread over 63644 accounts and the balance of Rs. 23,367 crores spread over 1,82,812 accounts was financed by the 14 banks. Among the 14 banks, Syndicate (Rs. 28.58 crores), Central (Rs. 32.16 crores) and Bank of India (Rs. 22.48 crores) financed Rs. 83.22 crores or 35.6 per cent of the total. In respect of accounts Syndicate and Canara together financed 1,07,664 accounts (58.9%). Over the six and half years ended December 1975, the priority sector advances of the public sector banks improved from Rs. 436 59 crores to Rs. 2,307.53 crores. During the same period, the State Bank as a group stepped up their lending to these neglected sectors from Rs. 202.92 crores to Rs. 708 crores. The outstanding feature is that the 14 nationalised banks as a group stepped up their lending by Rs. 1,365.86 crores to Rs. 1,599.53 crores. Almost all the banks have stepped up their lendings to these sectors. This apart, there was a phenomenal increase in the total number of borrowal accounts by 36,26,023 from 2,46,456 to 38,72,479. Of which, the State Bank financed 10,18,768 (26.3%), subsidiaries 2,42,838 (6.3%) and nationalised banks 26,10,873

(67.4%) accounts. Among the 14 nationalised banks, except Dena, Allahabad and Bank of Maharashtra, all the other 11 banks have more than a lakh of priority sector accounts in their fold.

This phenomenal rise in accounts under the priority sector advances has added additional burden on the banks. This apart, it has introduced an element of technical induction into the service of the bank's management.

On the basis of the present trends the advances to priority sectors in the next five years by the public sector banks are expected to step up by additional Rs. 4000 to Rs. 5000 crores, on the assumption that about 36.5 or 45.6 per cent of the incremental credit is disbursed to the priority sectors. On the present reckoning, this means that the public sector banks are likely to add about 40 to 50 lakhs of additional accounts. This order of phenomenal increase calls for reorganisation of the public sector banks at macro and micro level. The organisation of banks has to undergo a substantial re-orientation to meet these challenges.

Having considered the growth of the public sector banks and the probable growth of the public sector banks in the next five years, the scheme outlined by the Banking Commission is not tenable. And, the logic of maintaining a state-owned system of competitive oligopoly is difficult to justify. The other alternatives suggested by a few of having a single banking monolith for the whole country with 20,000 branches is not a viable economic unit. Above all, banking is a service institution and service diminishes as the organisation becomes a monolith. The experience of Life Insurance Corporation does not permit to create a monolith organisation. In between the two extremes, there may be a number of alternatives—a regional commercial bank for each state, a structure of the type that the Banking Commission recommended. The State-wise organisation of banks will be distressingly unequal in size and resources and open to undesirable types of pressure. There are arguments in favour of functional banks—agriculture, small scale industry, export and import, industry, trade etc. The Banking Commission has already dismissed this proposal quite unequivocally. There are already a number of development banks to cater to the needs of agriculture, industry, trade, etc. So, there is no need for functional banks. In regard to the other functions, any functional separation of banks will mean that each one will have to open a chain of branches all over the country and, secondly, that a customer with a mixed set of requirements will have to deal with a number of offices. When agriculture is coming close to industry, when small industry tends to become large and when the manufacturer is also the exporter, what is required is a multi-service agency and not separate banks for partial service. The role of the banking industry is quite distinct from the development banks. This apart, there are also arguments in favour of the other extreme of having a large number of autonomous small banks (on the pattern of unit banks in the United States). Prof. Bhabatosh Datta has correctly observed, "In the Indian System, it is the continuous dialogue between the Reserve Bank and the heads of commercial banks and the specific directives issued that really matters and for this it is essential to have a small number of decision making modal points. The moral suasion-plus-coercive direction that forms the basis of monetary policy in India will be impossible to operate with 400 autonomous banks. It is difficult enough with fifty and will be much easier if the number is further reduced.. . .if all the 400 autonomous units are to be state-owned, the responsibilities of the Government in the matter of selections of Chairmen and Board members can be impossibly large".

There is need for restructuring of the public sector banks, retaining the multi-servies character of commercial banking The need of the hour is that, there shall be a smaller number of banks than the existing 22, so that with effective dialogue with the Reserve Bank, the monetary and fiscal policy is effectively implemented and the available manpower is effectively utilised. Competition among the banks will continue and better customer relations introduced. There is also need for economic units, which can involve themselves in meeting the socio-economic obligations. And, in course of time, say five or ten years, these institutions grow themselves into well knit giant corporations.

This calls for merger of the existing public sector banks into zonal banks of the size of State Bank of India. One may add that in order to streamline the banking activities and get the benefit of the reorganisation, it will be desirable to nationalise the remaining private banks and merge into the zonal banks.

Thus the Indian Banking System will continue to function into a two-tier system consisting of zonal banks and regional rural banks. I propose for the consideration of the commission the following scheme or reorganisation of the public sector banks. Restructuring of the public sectors may take shape in the following order :

UTTARP [illegible]

First Alternative

Five zonal banks—East, West, North, South and Central.

Group of Banks	Area of Operation	Resources of Banks Grouped as of Dec. 1975	
		Deposits	Advances
		(Rs. crores)	
1. (i) State Bank of India	*Northern Zone*	2,484	1,660
(ii) State Bank of Patiala	Uttar Pradesh		
	Bihar		
	Delhi		
	Punjab		
	Haryana		
	Jammu & Kashmir		
2. (i) Bank of India	*Westrn Zone*	2,128	1,461
(ii) Bank of Baroda	Maharashtra		
(iii) State Bank of Saurashtra	Gujarat		
	Goa		
3. (i) Punjab National	*Eastern Zone*	2,441	1,601
(ii) United Commercial	West Bengal		
(iii) United Bank	Orisssa		
(iv) Allahabad Bank	Assam		
	Manipur		
	Tgipura		
	Arunachal Pradesh		
4. (i) Central Bank	*Central Zone*	2,316	1,643
(ii) Union Bank	Madhya Pradesh		
(iii) Dena Bank	Rajasthan		
(iv) Bank of Maharashtra			
(v) State Bank of Bikaner & Jaipur			
(vi) State Bank of Indor			
5. (i) Canara	*Southern Zone*	1.925	1,255
(ii) Syndicate	Tamil Nadu		
(iii) Indian	Kerala		
(iv) Indian Overseas	Karnataka		
(v) State Bank of Hyderabad	Andhra Pradesh		
	Pondichery		

(vi) State Bank of Mysore	Andaman
(vii) State Bank of Travancore	Nicobar Laksha Dweep

Deposits and Advances do not include figures of subsidiary banks.

Second Alternative

To restructure on the three tier basis.

Five National Banks :

1. State Bank of India
2. Central Bank of India
3. Bank of India
4. Punjab National Bank
5. Bank of Baroda

These banks will continue to work on national basis.

Six Zonal Banks

Six zonal banks may be formed with the mergers of the following banks

Zones	Area of Operation	Banks to be Merged
1. Eastern Zone	Assam, Tripura, Arunachal Pradesh, Bihar, Orissa and West Bengal	(1) U.C.O. (2) United Bank.
2. Western Zone	Goa, Daman, Diu, Maharashtra and Gujarat	(1) Union (2) Dena (3) Maharashtra (4) State Bank of Saurashtra
3. Central Zone	Madhya Pradesh and Rajasthan	(1) State Bank of Bikaner and Jaipur (2) State Bank of Indore
4. Northern Zone	Jammu & Kashmir, Haryana, Punjab, Uttar Pradesh and Sikkim	(1) Allahabad (2) State Bank of Patiala.
5. South-Eastern Zone	Karanataka and Kerala	(1) Canara (2) Syndicate (3) State Bank of Mysore (4) State Bank of Travencore
6. South-Western Zone	Andhra Pradesh Tamil Nadu and Pondichery	(1) Indian (2) Indian Overseas (3) State Bank of Hyderabad

The first form of restructuring of the public sector banks as suggested in the foregoing pages has the following advantages:

1. The number of 22, stands reduced to 5. This apart, every zonal bank is of the size of the State Bank of India, each serving on an average about 15/20 lakhs of clientele. Of which 10 lakhs under the priority sector advances.
2. Each of the zonal banks has to play a vital role in the development of the zones under its operation and at the same time maintain its international image.
3. Each zonal bank is expected to draw detailed credit plans for the area under operation, stressing on the removal of regional and inter-regional disparities. In this task, the zonal bank may enter into consortium financing with other zonal banks operating in the area.
4. It is quite convenient to implement the monetary and fiscal policies in direct dialogue with the Chairman of the zonal banks.
5. It is convenient for the Government to set up an uniform organisation pattern for all the zonal banks.
6. There is wide scope for better utilisation of the existing manpower.

This pattern of restructuring has some shortcomings as to its size, which could be overcome by computalisation and introduction of modern methods of working. Introduction of uniform practice and working methods go a long way in the integration of bank employees and further the integrated development of the areas.

In this, State Bank of India, Bank of India, Punjab National, Central Bank of India and Canara Bank should take a lead in organising the zonal banks on sonud lines.

Under the proposed second alternative of restructuring, the first five leading public sector banks—State Bank, Central Bank, Bank of India, Punjab National Bank and Bank of Baroda—having more than 1,200 crores of working funds will continue as National/International banks. And, the remaining 17 banks are grouped into six zonal banks as indicated above. The zonal banks will cater to the needs of the respective zones. The national banks will assist the big projects of the area in consortium with the zonal banks. Thus the number of public sector banks stands reduced to 11 instead of 22. Again, with the merger of small units into bigger ones, they become economically viable units.

In this pattern of grouping, South-Eastern Zone will be in a commandable position as comared to Central Zone. However, this snag could be corrected by deploying funds by the National Banks.

Regional Rural Banks forms the third tier of the Indian banking system.

Fifty Rural Banks

Fifty Regional Rural Banks with 1000 branches are to cater to the needs of the 50/75 districts in backward States.

It is suggested that the other private sector banks may also be merged with the zonal banks—particularly, New Bank of India, Vijaya Bank, Andhra Bank, Bank of Madurai, Federal Bank and others who have shown considerable progress during the last five years so as to strengthen the weaker links. The scheme of restructuring of the public sectors calls for streamlining the wage structure, service rules, organisational machinery, etc.

Further each of the zonal/national banks will have compact regions having a control over 100 to 150 branches. And, within the regions there will be District Managers to guide the branch managers in their day to day activities and develop the business, extend assistance in preparing performance budget, review the progress and provide technical assistance as regards agricultural and small scale industrial advances. Further, the District Managers will draw up a district plan in dialogue with the district plan authorities and other development institutions in the area.

The Head Office of the Zonal Bank will be principally a policy making and controlling body. And, it may be organised functionally for developing the institution on a systematic way.

I suggest the following broad pattern of organisation for zonal/national banks :

Organisation of a Zonal Bank

Chairman—Board of Directors
|
Managing Director

General Manager Development	General Manager Operation	General Manager Accounts & Audit	General Manager Merchant Banking and International Development	General Manager Personnel Training & Research	General Manager Planning & Policy Strateging Economic & Statistics

In addition, each General Manager is to look after the regions/divisions under his control. Regional control acquires added importance in a corporate body, which is a service institution.

Some Technological Problems of Afro-Asian and Latin American Countries—a Rejoinder

Tapan Ghosh*

The observations made by Prof. Debesh Bhattacharyya in his dissertation, "Some Technological Problems of Afro-Asian and Latin American countries" as published in the Annual Number of Economic Affairs (1976) are very significant. Since he has spelt out his conclusions at the end of his article, it would be proper to proceed with them serially and see how far these are tenable. He centres his discussion round the controversy on the choice of technique (with reference to industrialisation) in the developing nations, and the advisability of importing capital-intensive technology in the Afro-Asian and Latin American nations, emphasising the latter.

He first concludes that "Direct importation...USSR"** (P-48). But he himself remarks (it was in fact, his own finding) in the course of the discourse that "For poor countries, highly capital-intensive technology must be imported, at least, initially in the process of development"...(P-36) etc. Why it is considered as must unless it is also should and is beneficial ? Does his own conclusion not contradict his own observation, as quoted ? Moreover, which country imports capital intensive technology as an end in itself—for the sole purpose of importing them as panacea to all economic deficiences ? These are imported as a means to an End and the End is development of indigenous technology in due process and the Means in this score is imported technology—imported at the initial stage to enable the economy to take off.

Not only in India, almost in all LDC's, it is three 'f's that are offsetting all the achievements of vigorous economic activities and consequent thereto foreign exchange earnings. The first is fuel, the second fertiliser and third food. Is it not beneficial for us to import oil technology and thereby be self-sufficient in oil as early as possible than to go on importing oil at ever-increasing price to be paid in hard currency ?

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* Calcutta.

** All quotations may be read at the end.

Oil technology is advanced and capital intensive technology and is beneficial to the receipient nation, hence to be imported at the initial stage keeping in view the development of indigeneous technology "Higher oil prices added 800 million dollars to India's import in 1974 an amount equal to approximately two-thirds of its entire foreign exchange reserves, at the end of 1975 more than 25% of its total exports and considerably more than official capital inflows net of debt service. Sri Lanka paid 100 million dollars more for petroleum imported with deteriorating terms of trade because the price of its export, tea has been stagnating. The new oil prices added 70 million dollars to the import costs of Bangladesh ." E T. Economic Times (New Delhi) dated 20.4 76. Hence most of the contracts are based not only on drilling but also exploring. The recent examples are that of both Bangladesh and India. Examples from Indonesia and many Arab countries may also be cited as well.

His second conclusion viz. "Capital intensive technologies. of people" (P-48) also sounds biased and shows only one side of the coin. This is only a half-truth. He overlooks the other side of the coin viz the probable and real benefits of the masses of people who can be and are served by capital intensive technolygy, although in a distorted manner under capitalism. Let us take our second 't' as example, i e., fertiliser. Most of the developing nations (except oil exporting lands) are mainly agrarian and the major constituent of their export is agricultural and almost all of them are experiencing food problem. How can they improve upon the food condition and strengthen their traditional agarian export items (especially in view of their decreasing price in international market) without fertiliser ? Is the extent of contribution of fertiliser towards HYVP in India not enormous ? Has it not made us self-sufficient in food by augmenting our agricultural output ? Does fertiliser not require a capital intensive technology, would we not import it ?

The third remark that "Capital-intensive...of population" (P-48) is also partly true. The capital intensive technology aggravates the problems of under development by limiting employment opportunities in the Third World only in the long run—at the initial stage capital intensive method, implying large scale industrial organisation, creates employments. They do not necessarily or universally 'create income inequalities, class distinctions, poverty and misery for the masses of the population'. They create these things only when they are employed as a tool of profit motive of the capitalists. Capital intensive technique is also employed in socialist countries, with results contrary to those mentioned. He is perfectly correct when he notes that "technology is never neutral and that is never above the class struggle". Consequently, he opines no amount of technology is going to promote 'economic development unless there be first or simultaneously a widespread political and social revolution" (Page-34), which I personally fully endorse. It is only a political and social revolution leading to socialism that can put the capital intensive technology to its proper perspective and can be rationally implemented as it is only there that the benefits of capital intensive method are optimally derived and equitably distributed, keeping in view the welfare of the people replacing affluence of the few.

His fourth conclusion has to be supplemented by the remark that the dualism arising as a result of induction of capital intensive technology from abroad has to be done away with the help of the capital intensive technique itself. It is by dint of this that the agriculture has to be industrialised so that agriculture also becomes an industry in course of time.

The fifth conclusion is very much true, but ineffective, as he himself observes, "that the mass line technology is not a sufficient condition for economic developments". (P-45). He also does not distinctly indicate whether the summum bonum of economic development is only full-employment—irrespective of the productivity of labour, volume of production and even the quantum of wage earned.

The sixth and last contention is too broad to be discussed in the span of such a short article—hence I maintain silence on this point.

Since I hold a different view in this regard than that of Prof. Bhattacharyya, I am inclined to give vent to my views.

One is induced to observe, at the very outset, that Prof. Bhattacharya describes things in absolute terms. It appears from his write-up as if the only and exclusive choice were between capital intensive or labour intensive technology—exclusively—there cannot be any complementary or supplementary proposition composed of both the methods. In my opinion, the correct tactic (or approach) would be : capital intensive technique for basic and heavy industries and labour intensive technology for secondary industries. Moreover, the ultimate goal of economic development is not to secure somehow full employment as such but high rate of growth followed by more productive employment and equitable distribution.

Industrialisation has to be instrumental in achieving the socio-economic equity and on this score the capital intensive method must play the predominant role and the labour intensive method the secondary role. I am of this opinion for the following reasons :

Basic (heavy) industries have to be capital intensive and should be capital intensive and large scale to speed up industrialisation since otherwise it is not feasible.[2] It increases the productivity of labour which is the core of economic development.[3] The higher is the productivity the larger is the volume of production and consequently the more is the scope of accumulation. Production leading to expanding reproduction is the life-line of economic activities.[4] The discrepancy of the per capita income, per capita consumption of both agrarian and industrial goods and above all the per capita productivity between the developed and developing nations and the exigency of enhancing the rates of developing nations are not only to catch up the developed nations but also to render possible a decent living for the masses of people living in the less developed nations. As big is this discrepancy and as long this discrepancy lasts, so big and so lasting is the scope of neo-colonial exploitation.[5] Capital intensive method is also essential for mechanisation of farming to enhance the volume of our farm products which is still the major source of our national income and export. It is too well known to be evinced with data that the occasional failure of agriculture in India inevitably leads to the breakdown of our national economy. This is not unique in India—this is common to all the agarian developing nations. The capital intensive method also expands the scope of our export which, in turn, offsets our normally unfavourable balance of trade and also reduces the import bill by replacing foreign goods with indigenous ones. The capital intensive technology generates higher rate of growth than the labour intensive method. To-day, given the standard of living of the less developed nations, growth followed by equitable distribution is the national task of the moment than full employment for all which means only a subsistence living today and also tomorrow, as it exists in many less developed countries. Although it is accepted on all hands that labour intensive technology generates more employment, still it should not be preferred to capital intensive technology and be introduced as the only and ideal technique since the economy, consequently, would tend to stagnate as a result of low growth potentially that labour intensive method implies. It is widely admitted that mechanised farming and sophisticated method of industrial production save labour and consequently augments unemployment. But it is only a half-truth. Industries offer enormous employment at the initial stage. Moreover, a capital intensive large scale industry brings with it simultaneously many ancillary industries. Any steel plant testifies this fact. But the remedy of this unemployment problem lies in generating alternate employment avenues. The solution is not in choosing labour intensive technology to replace the capital intensive technology. The already existing and prospective unemployment in the industrial urban sphere has to be solved through partly by expanding the tertiary sector and partly by introducing new industries mainly labour intensive, medium and intermediate industries. In the agricultural sphere, the remedy lies in the agro-based industries, cottage industries, social services, infrastructural network like laying roads, digging canals and wells, building hospitals and schools, etc Hence, it may be concluded that while blind importation of technology irrespective of the level of productive forces in a less developed nation is not proper, it is equally unwise and ineffective to take recourse to labour intensive small scale technique of industrialisation in the developing nations of Asia, Africa and Latin America. The rational and optimal method would be to practise or apply both the methods as complementary to each other (instead of exclusive of each other) in conformity with the level of development of the economy. This is equally true for all the developing nations.

1. "Direct importation of capital-intensive technology whether it be rudimentary or advanced, is not likely to be beneficial in terms of economic development. This is true whether it is imported from the West or from the USSR." (P-48),

2. "Capital—intensive technologies do not have, their beneficiaries. They benefit the developed countries, the comprador capitalists and other privileged classes of people."

3. Capital intensive technologies accelerates the problems of under development by limiting employment opportunities in the third world. They create income inequalities, class distinction, poverty and misery for the masses of population.

4. The dualism in the Afro-Asian and L. American countries is encouraged by the transfer of technologies from the developed countries, which do not possess the necessary appropriate technologies to be able to assist effectively rural development.

5. There are strong economic reasons for the introduction of technologies in third world because it is labour intensive, cheap, simple to absorb and is not dependent on the availability of foreign exchange and skills.

Jute Under Competition

Jute has increasingly come under competition from other materials and alternative techniques in virtually all its end-uses during the past three or four decades. Competition from synthetics, however, did not begin until the late sixties, when most polypropylene products became at least as cheap as the jute goods they were designed to displace. Even if polypropylene prices stopped falling after 1970, polypropylene products, nevertheless, increased their price advantage over comparable jute goods, due to the renewed rise in jute prices following the Bangladesh war of 1971 and the floods of 1971-72. By late 1972, according to a survey prepared by the FAO Secretariat for the intergovernmental Group on Jute, Kenaf & Allied Fibres, polypropylene had captured more than 50 percent of the primary carpet backing market in the US, about 90 percent in West Germany, and about 80 percent in the UK. Polypropylene also accounted for almost 60 percent of the bag market in the US and West Germany, and for some 40-50 percent in the UK and other EEC countries. It had also made substantial inroads into the packaging markets of Japan, Oceania, and many developing countries. During 1973-74, prices of polypropylene polymer for the first time rose steeply under the impact of the oil crisis and of worldwide shortages of production capacity. Prices of polypropylene carpet backing were, nevertheless, held constant and those of packaging fabrics were allowed to advance only slightly. The competitive position of jute goods, therefore, improved only moderately. With lower levels of economic activity during 1974-75, prices of polypropylene polymer receded and those of polypropylene yarns and fabrics were increased only fractionally. On the other hand, raw jute prices, after a sharp increase early in the season fell, back to mere realistic levels at the end of 1974-75, thereby making jute and jute goods more competitive in early 1975-76.

The depressed state of the economies of the developed countries during most of 1975 had a notable impact on markets for both jute and polypropylene. In Western Europe, by the beginning of the second half of the year, polypropylene prices, under pressure from reduced demand as well as from low-priced supplies of polymer coming from outside the region, had fallen to levels some 20 percent below the peak reached in early 1974. During the last quarter of 1975, prices of polypropylene in Western Europe were increased by some 10 percent from what then were regarded by manufacturers as uneconomically low levels. In the US also, prices of polypropylene were increased and were almost as high as those in Western Europe by the end of 1975.

World prices of jute manufactures declined in 1975 under pressure of a sharp fall in demand. Prices of all constructions in the US were 20 percent lower at the end of 1975 compared to levels prevailing early in that year. In the case of synthetics, despite rising polymer prices and continuing inflationary pressures, carpet backing prices in the US remained virtually stable, and prices of packaging cloth were raised only slightly. There was, nevertheless, a significant improvement in the competitive position of jute goods. By the end of 1975, delivered prices of jute secondary carpet backing were some 1.5 cents/sq. yd. less than polypropylene.

Selling prices of polypropylene goods in the US early 1975 were barely sufficient to cover costs of production. Developments since then, according to the FAO survey, indicate that extruders and weavers have continued their policy of forgoing profits in order to keep selling prices down.

Courtesy : Jute Chronicle.

Export Performance and Foreign Exchange Earnings

A Case Study of Exports of Jute Manufactures from India, 1950-51 to 1970-71

H. K. Sandhu*

Jute manufactures head the list of exchange earners amongst the traditional export commodities of India. Because of the strategic role played by exports in pestering economic growth, it is essential to study the factors that hinder the flow of exports to external markets and also those factors that account for a short-fall in the demand of exports from underdeveloped countries.

Though India's exports of jute manufactures have accounted for over 20 per cent of total annual exports during the last twenty years, yet it has never reached the pre-war volume in this period (1950-51 to 1970-71). India's share of world exports of jute manufactures fell from 97.2 per cent in 1948-50 to 83 per cent in 1955-57 and to 72 per cent in 1958-60. The share declined further during the period 1960-68 from 72 per cent to 55 per cent (10). Exports of jute goods in 1969 touched a lower level of 579 thousand tonnes against 673 thousand tonnes in 1968 (19). The decline in exports was shared by almost all items of jute goods except carpet backing cloth, which increased by 23 per cent during 1968-70.

Model Specifications

In the present investigation, ordinary least squares approach with variables expressed in logarithmic values have been used for working out demand elasticities for Indian exports of jute manufactures consisting of jute bags and jute cloth. The response of supply of jute bags and jute cloth to the profitability in the industry has also been computed by ordinary least squares method using absolute values for

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variables. The estimates are restricted to upper and lower ranges of elasticities only.

In order to specify the variables secondary data on time series for the period of 1950-51 to 1970-71 have been collected from various sources. Multicollinearity amongst the variables has been taken care of by computing zero order correlations. Explanatory variables with high correlation amongst them are already deleted from these specifications. Durbin-Watson 'd' statistics is also worked out and it was realised that the variables considered in specifications are not autocorrelated.

A. Demand of jute bags and jute cloth from India

(a) To have an overall picture of demand for Indian jute manufactures in response to world prices of jute manufactures, the linear function fitted is of the form :

$$\text{Log } X^{V_T}_{ITJM} = a_1 + a_2 \log P_{IJM} + a_3 \log P_{WJM} + a_4 \log S_{th_1} + a_5 \log t + U_1 \qquad (1)$$

The subscripts used with the variables are as follows : The first subscript, viz., I, refers to India (country), the second subscript refers to the commodity in trade.

The sources of variables and their specifications are as :

X^{V}_{ITJM} = Total export of jute manufactures from India (in value terms) in lakhs of rupees.

[The source of data is *Monthly Statistics of Foreign Trade*, Department of Commercial Statistics and Intelligence, Ministry of Commerce, Office of the Economic Advisor to Government of India].

P_{IJM} = Average annual wholesale price index of jute manufactures in India in rupees.

[The series have been collected from the Office of Economic Advisor to Government of India, Ministry of Industrial Development and Company Affairs, Delhi].

P_{wjm} = Average annual world prices of jute manufactures (rupees) have been collected from *Monthly Bulletin of Statistics*, United Nations.

S_{TH_1} = Use of synthetics in countries importing jute manufactures ('000 metric tonnes).

[These data known as synthetics "available for home use" (Production + imports − exports) are drawn from (a) *FAO Commodity Bulletin Series*, 1960, No. 31, (6)*FAO Monthly Bulletin of Agricultural Economics and Statistics*, July/August 1965, Vol. 14, No. 7/8 and same Bulletin March 1970, Vol. 19, No. 3, for the year 1970-71, the estimated figures were added to series].

To synthetics "available for home use" series covering Cuba, U.K., U.S.S.R., U.S.A. and Canada are added together because of high correlation amongst them.

t = time (trend) taken 1950-51 as unity.

Equation (1) gives the estimated price elasticity of demand for export of jute manufactures from India in world market.

(b) The upper and lower bounds of the elasticity of foreign demand for exports of jute bags from India to other markets have been estimated with the help of following linear equations in logarithms using ordinary least squares technique for estimation.

$$\text{Log } X^V_{IJB} = a_0 + a_1 \log P_{IXJB} + a_2 \log S_{TH_2} + a_3 \log X^V_{PJB} + a_4 \log I^1_P + a_5 \log t + U_2 \qquad (2)$$

$$\text{Log } P_{IXJB} = b_0 + b_1 \log X^V_{IJB} + b_2 \log S_{TH_2} + b_3 \log V_{PJB} + b_4 \log I^1_P + b_5 \log t \; U_3 \qquad (3)$$

On similar lines, the demand for exports of Indian jute cloth has been worked out :

$$\text{Log } X^V_{IJC} + a_0 + a_1 \log P_{IXJC} + a_2 \log X^V_{PJC} + a_3 \log S_{TH_3} + a_4 \log I^2_P + a_5 \log A_P + a_6 \log t + U_4 \qquad (4)$$

$$\text{Log } P_{IXJC} = d_0 + d_1 \log X^V_{IJC} + d_2 \log X^V_{PJC} + d_3 \log S_{TH_3} + d_4 \log I^2_P + d_5 \log A_P + d_6 \log t\, U_5 \qquad (5)$$

Where U_1, U_2, U_3, U_4, and U_5 are random disturbance.

X^V_{IJB} = Exports of jute bags from India in value terms (lakhs of rupees)

X^V_{IJC} = Total exports of jute cloth in value terms (lakhs of rupees)

[The data for these two variables are taken from the source entitled *Basic Materials Relating to International Trade, Production and Prices*. Office of Economic Advisor to Government of India].

P_{IXJB} and P_{IXJC} = Export unit values of jute bags and jute cloth in rupees. The data are drawn by dividing the value of exports by the quantum of exports respectively.

S_{TH_2}, S_{TH_3} = Use of synthetic in countries importing jute bags and jute cloth from India ('000 matric tonnes).

The source of data is same as mentioned in case of variable S_{TH_1}.

X^V_{PJB} and X^V_{PJC} = Exports of jute bags and jute cloth by Pakistan in value terms (rupees).

[The data for these variables are drawn from Pakistan Government's Central Statistical Organisation, *Statistical Bulletin*].

I^1_p and I^2_P = Index Nos. of industrial productivity in jute bags and jute cloth importing countries from India.

[This information in drawn from *Monthly Bulletin of Statistics*. United Nations. Combined industrial productivity index number has been constructed using the quantum of exports of jute bags and jute cloth from India to the respective countries as weights].

A_P = Combined index of agricultural production in U.S.A., Canada, U.K., and Argentina. The weights to combine these indices were the respective quantums of exports by India to these countries.

[The data on agricultural production indices were drawn from *The State of Food and Agriculture*, F.A.O., United Nations, Rome].

t=time trend.

B. Supplies of jute bags and jute cloth from India

The response of total supply of jute bags and jute cloth with respect to internal prices, wages and jute industry and rate of profits has been calculated with the help of the following mathematical equations.

Jute Bags

$$\text{Log } S^{Q}_{IJB}=a_0+a_1 \log P_{IRJ}+a_2 \log P_{IJB}+a_3 \log W_{IJM} +a_4 \log t+U_1 \quad (6)$$

$$S^{Q}_{IJB}=b_0+b_1 \; S^{Q}_{IJB_{-1}}+b_2 \, J_{IPR_{-1}}+b_3 \, t+U_2 \quad (7)$$

Jute Cloth

$$\text{Log } S^{Q}_{IJC}=c_0+c_1 \log P_{IRJ}+c_2 \log P_{IJC}+c_3 \log W_{IJM} +c_4 \log t+U_3 \quad (8)$$

$$S^{Q}_{IJC}=d_0+d_1 \; J_{IPR_{-1}}+d_2 \; S_{IJC_{-1}}+d_3 \, t+U_4 \quad (9)$$

Where U_1, U_2, U_3, and U_4 are random disturbances.

S^{Q}_{IJB} and S^{Q}_{IJC}=Supply of jute bags and of jute cloth are productions adjusted to changes in stocks of jute bags and jute cloth respectively in India, in thousand metric tons.

[The data for production and stocks are drawn from *Monthly Abstract of Statistics*, Department of Statistics, C.S.O., Government of India, New Delhi].

P_{IRJ}=Annual prices of raw jute in India deflated by the prices of paddy in Calcutta in rupees.

[The data have been obtained from the various issues of *Statitical Abstract* of India].

P_{IJB} and P_{IJC}=Wholesale prices of jute bags and jute cloth at the rate of per 100 bags and per 100 metres respectively.

[The source of data is *Statistical Abstract of India*].

W_{IJM}=Per capita wages in jute manufactures industry in rupees.

These are per capita annual money earnings of workers in jute manufacturing mills, including basic wages, allowances, annual bonus and money value of concessions. Under the Payment of Wages Act, the figures have been collected for total earnings (before deductions) of employees covered by the Act and the corresponding average per capita annual earnings have been derived by dividing the total earnings by the number of employees.

[The sources of data are the various issues of *Indian Labour Statistics*, Ministry of Labour, Employment and Rehabilitation, Government of India].

$J_{IPR_{-1}}$=Rate of profits in jute manufactures industry in the previous year in lakhs of rupees.

[The data are drawn from *Reserve Bank of India Bulletins and Monthly Abstract of Statistics*, Cabinet Secretariet, Government of India].

Following the above economic models, an attempt has been made to examine empirically the export performance of jute manufactures from India.

Statistical Estimates

To view the overall picture of jute manufactures exports from India to the world, the following relations have been estimated.[1]

$$\text{Log } X^{V}_{ITJM}=\underset{(7.626)}{1.818^{*}}+\underset{(0.816)}{0.031}\text{ Log } P_{IJM}+\underset{(0.527)}{0.252^{**}}$$

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[1] Figures in parenthesis are 't' values of the respective regression coefficients. This holds in case of all the estimated regression coefficients in this study.

The symbols used throughout this study for statistical significance of the estimates are:

@=Significant at 2 per cent level.

$*$=Significant at 1 per cent level.

$**$=Significant at 5 per cent level.

$***$=Significant at 10 per cent level.

N.S.=Not Significant.

$$\text{Log } P_{WJM} - 0.019$$
$$(-0.006)$$

$$\text{Log } S_{THI} + 0.011 \log t$$
$$(0.224) \qquad R^2 = 0.373 \text{ N. S.} \qquad \text{(i)}$$

The value of exports of jute manufactures from India was significantly related to prices offered in the world markets. The estimated mangitude of demand elasticity for export earnings (0.25) with respect to world prices appears to be in agreement with the UNITAD estimate of elasticity of Indian jute export earnings, 0.3, with respect to worlds prices (20). It may, however, be pointed out that since the R^2 is not significant, world prices of jute manufactures at an aggregate level are the only important variable which is responsive to jute export earnings of India To diagnose the problem further, the exports of jute manufactures are broken into three parts, i.e., jute bage, jute cloth and carpet backing

Demand for exports of jute bags from India

Jute bags were mostly exported to Australia, Cuba, U.K., Thailand, Burma, Indonesia, U.S.S.R., U.S.A. and Canada. Jute bags export values are regressed on export unit value, synthetics (a substitute for jute bags in importing countries), export of jute bags by Pakistan, composite index of industrial productivity of U.S.S.R., U.S.A. and Canada. The information in this respect was not available in case of other importing countries. The upper and lower limit estimates of the elasticities of demand for exports of jute bags with respect to export unit value have been obtained by regressing ; alternatively, export values and export unit value of jute bags on other independent variables. The fitted linear functions in logarithms are given below :

$$\text{Log } X^V_{IJB} = 6.14^* - 2.19^* \log P_{IXJB} + 1.84^* \log S_{TH_2} - 0.34$$
$$(4.59)(-4.90) \qquad (3.14) \qquad (-1.32)$$

$$\text{Log } X^V_{PJB} - 4.97^* \log K^1_P - 0.54 \log t$$
$$(-4.54) \qquad (-1.31)$$

$$R^2 = 0.74^* \qquad N = 20 \qquad d = 2.02 \qquad \text{(ii)}$$

$$\text{Log } P_{IXJB} = -1.87^{*} - 0.29^{*} \log X^{V}_{IJB} - 0.79^{*} \log S_{TH_2} + 0.22^{***}$$

$$(-3.22)(-4.90) \qquad (-4.43) \qquad (2-66)$$

$$\text{Log } X^{V}_{PJB} + 2.03^{*} \log I^{1}_{P} + 0.20 \log t$$

$$(6.59) \qquad (1.34)$$

$$R^2 = 0.92 \qquad N = 20 \qquad d = 1.96 \qquad \text{(iii)}$$

The estimated equations (ii) and (iii) give the upper and lower limit elasticities of demand[1] for exports of jute bags from India i.e. 1.19 and 2.4. Both the coefficients are significant at one per cent level.

The import demand of Indian jute bags is largely dependent on the price competitiveness and internal requirements in importing countries. Over the period under study polypropylene (pp) sacks were competing with heavier bags made from jute sacking. The polyolefin sacks (6) have greater strength, are several times lighter than heavy sacking bags and available at relatively cheaper rates. The production of woven polyolefin sacks is more developed in U.K., Canada, Australia and U.S.A. than in other countries. It is used in shipping replacing most of the commodities previously transported in jute bags. In Canada jute bags have been facing threat of competition from woven polyolefin bags from mid 1966. Canada has been importing dust-proof polyothylene (PF) bags from Japan which relatively cost less as compared to jute bags imported form India.

[1] Express the elasticity of value exports with respect to prices as where $X^V = X.P$

Suppose $\sum = \frac{\log X^V}{\log P}$

$$\frac{d \log X^V}{d \log P} = P\frac{dX}{dP} + X\frac{dP}{dP} = \left(\frac{P}{X}\frac{dX}{dP} + 1\right)$$

$= \eta + 1$, where $\eta = \frac{dX}{dP} \cdot \frac{P}{X}$ = Demand elasticity of quantity exported with respect to price.

Following above in this case upper and lower limits are $\left(\frac{1}{0.29} = 3.4\right)$ $3.4 - 1 = 2.4$ and $2.19 = 1.19$. Since the estimated value of equation (iii) is 0.29. In fact this is known as flexibility of demand, the inverse of this is considered as elasticity of price with respect to value of exports.

The synthetics 'available for home use' in these countries have rather adversely affected the exports of jute bags from India during the last decade. The expansion in economic activity during the last twenty years has led to a manifold increase in demand for bags for packaging purposes in the world market but India has not been able to take advantage of this increased world demand by expanding exports because of the heaviness and higher production cost of jute bags in relation to synthetic bags supplied by other countries.

Pakisthan (now Bangla Desh) has virtual monopoly in producing a higher quality jute fibre which is at the same time low priced. Devaluation of the Pakistani rupee in August 1955 had helped her in maintaining the incentive of exports in foreign markets through competitive prices. The large dependence of India on the supply of raw jute from Pakistan created an unfavourable impact on India's export competitiveness. Pakistan cornered India by introducing Export Bonus Voucher Scheme in January 1959 (1,12). In this way, Pakistan's exports of jute bags are substantially subsidized though in a concealed form.

Demand for exports of jute cloth (hessian) from India

Analogous to statistical analysis of factors determining jute bags exports from India, factors influencing jute cloth exports have been examined. The independent variables included are export unit value of jute cloth (hessian), exports of jute cloth from Pakistan, and "Synthetics for use" in importing countries. The estimated linear equations in logarithmic values are given below :

$$\text{Log } X^{V}_{IJC} = 7.31@ - 0.79^{*} \log P_{IXJC} - 0.13 \log X^{V}_{PJC} - 0.11$$

$$(-2.87)\quad(-5.49)\qquad\qquad(-1.18)\qquad\qquad(-0.36)$$

$$\log S_{TH_3} - 1.70@ \log L_P 2 + 6.12 \log A_P + 0.46^{**} \log t$$

$$(-2.56)\qquad\qquad(0.36)\qquad\qquad(2.16)$$

$$R^2 = 0.95 \qquad N = 20 \qquad d = 1.99 \qquad \text{(iv)}$$

$$\text{Log } P_{IXJC} = 7.04^{**} - 0.89^{*} \log X^{V}_{IJC} + 0.21 \log X^{V}_{PJC} + 0.22$$

$$(2.47)\quad(-5.49)\qquad\qquad(1.85)\qquad\qquad(0.66)$$

$$\text{Log } S_{TH_8} + 1.59^{***} \log I^{2}_{P} - 5.43 \log A_P - 0.71^{*} \log t$$

$$(2.14)\qquad\qquad(-2.64)\qquad\qquad(-4.18)$$

$$R^2 = 0.92^{*} \qquad N = 20 \qquad d = 1.97 \qquad \text{(v)}$$

Following the same statistical logic as in case of jute bags, the export demand elasticities of jute cloth worked out from equations (iv) and (v) are in the range of 0.12 to 0.21. The jute cloth industry is export-oriented but the exports of jute cloth from India were stagnant because of inelastic demand abroad. The production of this industry depends more on external response than on internal damand.

The exports of jute cloth by Pakistan did not have any appreciable direct effect on the exports of Indian jute cloth during the fifties because of its smaller share in the foreign markets. But Pakistanis comparative advantage over India in the export of jute manufactures has been because of (i) good quality fibres used in production of jute manufactures, (ii) export price differentials, and (iii) more modern machirery. "The export price differential is significant because it is an index of the gap that has to be bridged by the country concerned if it is to induce its firms to export the product on a competitive basis" (16). The monopolistic position enjoyed by India as the chief exporter has been threatened by European countries because of heavy export duty levied by tho Indian Govt. For example, America purchased 8 million yards of burlap (hessian) in December 1951 from European countries against 7 million yards from India. European countries purchased larger quantities of raw jute from Pakistan, with a view to expanding their production. And the high rate of export duty imposed by India indirectly offered a fairly good margin of profit to European countries if they stick to Pakistan for these purchases. Moreover, jute cloth exports from Pakistan have increased, and there was a falling share of Indian hessian exports in world markets.

Another competitive factor in the export of jute cloth is the substitution of synthetics in developed countries. At the same time, statistically the coefficients are not significant in these equations. Burlap bags are only one of many ways of packaging, storing and transporting commodities. In most of its end-uses, the burlap bag is affected by the substitution of other package materials as well as by the adoption of bulk-handling techniques (2). The consumption of burlap bags was tended to fall during this period (1950-51 to 1970-71) and the use of polythylene (PE) film bags had increased. The use of synthetics has doubled in jute cloth importing countries during the last five years (1965-70).

The coefficients for indices of agricultural production and industrial production are also statistically significant. In spite of the introduction of techniques of bulk-handling(2) in jute manufactures importing countries, the demand for jute cloth was still alive for packaging of such commodities which requires air-evaporation.

Exports of carpet backing from India

It was only in 1957-58 that the production of carpet backing was started in India on a large scale. Despatches of jute carpet backing from Indian mills for exports have increased from 11.3 thousand metric tonnes in 1957-58 to 117.9 metric tonnes in 1966-67. According to the survey of India's export potential(18) of jute and jute products, 90 percent of India's total exports of carpet backing goes to the U.S market alone. Pakistan too, increased its share of exports from zero level to 35000 tonnes during the period 1957-67.

The demand for carpet backing is clearly tied to the volume of carpet production. In the period, 1962-96, total U.S. carpet production rose by almost 70 per cent to reach 470 million yards. The increased production of tufted carpets led to the expansion of demand for carpet backing in traditional markets. The wide-width jute fabrics have been regarded as the important material for primary backing tufted broad loom carpets It has also been the major fabric used for secondary backing. To some extent the growth of the American market in tufted carpets was dependent on the development of jute backing during the last decade. Demand for jute backing in the 1963-65 period rose rapidly though the share of jute carpeting in total carpet backing rose slightly from 77 percent to 81 percent.

Australia is another export market for jute carpet backing from India. India's share in Australia's import of jute backing increased from 7.27 per cent in 1962-63 to 91.8 per cent in 1966-67 (8). During the mid-fifties, Australian demand for jute backing was almost entirely supplied by Scottish Jute Mills but soon after India captured a substantial share of the Australian market.

No statistical analysis in case of exports of carpet backing has been done due to non-availability of data for various possible variables which could be discussed in connection with this export commodity.

To summarise the export demand position of jute-manufactures of India, the elasticity with response to exports earnings is 0.252. The elasticity of demand for jute bags (sacks) exports ranges from 1.19 to 2.4. One has courage to express that the elasticity of export demand was high with respect to jute bags in jute-bags importing countries. Then the demand for jute cloth (hessian) was inelastic again. It ranged from 0.12 to 0.21. The demand for this particular commodity had not been increased over time. Increased industrial and agricultural production in jute cloth importing countries was packed in synthetic bags and even bulk handling techniques have been utilized by the producers for transportation purposes. All it indicates that the maintenance of the current exports to these countries must be protected but there is very little scope for further expansion of exports in these markets. The exports of jute bags were price responsive in jute bags importing countries. Further exansion of export market of this commodity was possible thereby reducing prices. In addition, these countries have a demand for carpet backing also. So the requirements of the time are that exportable surpluses of jute bags and carpet backing should be increased and of jute cloth must be maintained, if India wants to maintain her exchange earnings from this monopolised agricultural export product.

Export supplies of jute bags and jute cloth from India

It has been hypothesised in this study that export supplies of jute bags and jute cloth were directly related to the cost of production. The cost of production function at average consists of prices of raw jute, wages in jute industry and rate of profits. Another proxy variable representing the internal demand for jute manufactures was added in the form of internal prices for jute manufactures. It is assumed that internal demand for jute manufactures also affects the exportable surpluses of this commodity. The supply relations have been estimated in legarithmic values by excluding rate of profits from the statistical fit. Two linear equations in absolute values of variables, including rate of profits in jute industry as one of the explanatory variables, have also been tried. The observed values of rate of profits were negative in some years, and for that reason, the variables including rate of profits in the linear supply relation have been expressed in absolute values separately.

The estimated relations are :

Jute bags

$$\text{Log } S^{Q}_{IJB}=4.386^{*}+0.168 \log P_{IRJ}-0{\cdot}126 \log P_{IJB}-0.807^{*}$$

$$(11.576)\ (1.268) \qquad (-0.976) \qquad (-3.546)$$

$$\log W_{IJM} \underset{(2.469)}{+0.204^{**}} \log t.$$

$$R^2=6\ 615^* \qquad N=20 \qquad d=1.79 \qquad \text{(vi)}$$

Again

$$S^Q_{LJB}=\underset{(5.241)}{413.159^*}\underset{(1.749)}{+0.262}\ S^Q_{IJR-1}\underset{(2.464)}{+0.042^{**}}\ J_{IPR-1}\underset{(-2.010)}{-3.827^{***}}\ t$$

$$R^2=0.619^* \qquad N=20 \qquad d=2.47 \qquad \text{(vii)}$$

Jute cloth (Hessian)

$$\text{Log } S^Q_{IJC}=\underset{(8.182)}{3.502^*}\underset{(0.528)}{+0.068}\ \log P_{IRJ}\underset{(-0.981)}{-0.250}\ \log P_{IJC}\underset{(-0.559)}{-0.134}$$

$$\text{Low } W_{IJM} \underset{(1.868)}{+0.159} \text{ lot } t$$

$$R^2=0.565@ \qquad N=20 \qquad d=2.01 \qquad \text{(viii)}$$

and also

$$S^Q_{IJC}=\underset{(2.576)}{187.568^{***}}\underset{(2.630)}{+0.046@}\ J_{IPR-1}\underset{(2.076)}{+0.433^{***}}\ S^Q_{IJC-1}\underset{(1.659)}{+3.826}\ t$$

$$R^2=0.643^* \qquad N=20 \qquad d=1.98 \qquad \text{(ix)}$$

The estimated equations indicate that the significant factors affecting the supply of jute bags and jute cloth were wages and the rate of profits in the jute industry each considered in separate regressions. As it was to be expected, the rate of profits which serves a big incentive to jute manufactures and wages of workers (including bonus, allowance, etc.) were important determinants of jute bags and jute cloth production and then exportable surpluses. The profitablility in jute mills has been reduced considerably during the last few years. According to the Reserve Bank of India's analysis+, the profits after tax payments, and expressed as per cent of net worth of 48 jute companies studied, was 3.8 in 1965-66 but in 1966-67 it was minus 4.3 which decreased further to minus 10.0 by 1967-68.

Wages contribute substantially to the costs of production. The total labour cost, direct and indirect, for each tonne of jute manufactures was estimated in 1969. It was Rs. 413.72 for hessian, Rs. 307.27 for sacking and Rs. 540.88 for carpet backing++. The

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+ Various issues of 'Reserve Bank of India's Bulletins'.

++ "The Jute Package", 'The Eastern Economist, January' 15, 1970.

earnings of workers increased as a result of a settlement reached in August 1969 ; paradoxically, productivity has declined with the increase in wages. The estimated coefficients of wages are significant at 1 per cent level in case of jute bags industry and it is not significant at all in the case of jute cloth industry.

Similarly, statistical estimates in relation to prices of raw jute in India, and average annual wholesale prices in case of jute bags as well as jute cloth were insignificant. It indicates that export unit value was a guiding star in response to supply of jute manufactures. Internal prices do not play any role. The price of raw jute constituted nearly 50 per cent of the price of the finished goods despite its non significance in statistical analysis. There were wide fluctuations in prices of raw jute, because it was depending on Pakistan's export policy towards India. Pakistan charged high prices from India as compared to European mills. The rise in prices of raw jute was by 30 per cent and the fall in prices of jute manufactures was also by 10 per cent, during the period of 1952-53 to 1952-58. It has adversely affected the profitability of jute manufactures. To get relief from this cost price squeeze the Indian Jute Mills Association passed a rule in March, 1958 not to sell jute manufactures below certain specified prices.

Summing up, profitability and wages plus other labour remunerations were the main factors that affect the decisions of manufacturers in jute industry. The reduction in export of jute manufactures and any subsidy granted as an incentive for their exports, would have improved the situation.

The jute manufacture industry is export-oriented, and the exports account for 80 percent of the total production. The overall supply of jute manufactures from mills affects the exportable surpluses of this commodity to other countries. The statistical analysis supports the hypothesis that supply of jute manufactures is affected by the net returns (profits) and wages. The statistical analysis has also supported the hypothesis that foreign demand for jute manufactures is significantly related to world market prices of this commodity but the supply of jute cloth needs to be supported by export incentives.

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Economics of Jute Cultivation in Selected Areas of Purnea District

R. P. Singh*

Jute is one of the important commercial crops of India. Jute alone provides about Rs. 200 crores of foreign exchange to the country and also employment to around 20 lakhs of people in an industry based on jute raw material and to lakhs of farmers. But during the last decade there has been a great set-back to the jute growers mainly because of uncertain and low prices of jute and over-dominance of jute mill owners which made the jute growing an unremunarative enterprise. Bihar is one of the seven jute growing states of the country which alone accounts for 19 per cent of the total area under jute in the country. Out of total production of 6698 thousand bales of jute produced in the country, Bihar alone produced 761 thousand bales of 180 kgs each during 1972-73.

The present paper is confined to the economies of jute cultivation in three selected areas mainly Purnea Sadar, Forbesganj and Kishanganj of district Purnea in North Bihar. Purnea and Saharsa are the two adjoining district jointly covering the maximum area under jute in Bihar. The Purnea—the present district under study—alone accounts for 77 per cent of the total production of jute in the state as a whole. Presently there are 342 wholesale markets in the state of Bihar of which 60 are regulated. Of this 60 regulated markets in the state 20 are dealing with jute, 18 in North Bihar alone and 2 in the remaining areas. In the predivided district of Purnea there are 14 regulated markets of which 7 are dealing mainly with jute. Out of this 7 jute regulated markets 6 are in new Purnea district from which three main markets, namely, Gulab bagh, Kishanganj and Forbesganj were selected for the investigation purpose. In all six villages each from the selected areas and 10 jute growers with small (less than 50 acres) and large holdings (more than 5 acres) from each village were selected for collecting the first hand information.

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Area Under Different Varieties of Crops

Generally four varieties of jute namely 'Sone' or 'Tosa', 'Chandi', 'Sada or Deshi' and 'Mesta' were grown in Purnea district. But it was found that Mesta variety of jute was grown in only Kishanganj area. This was possibly due to the suitability of this variety which mainly grows in low living areas or Tarai region having some alkalinity in the soil. Kishanganj area is located on the border of "Bangladesh" and some parts of this area are 'Tarai'. An interesting thing was

Table V-2

Area Under Different Varieties of Jute in Different Size Groups in Selected Area of Purnea District

		Varieties				
Area	Size group of Farm	Sona or Tosa	Sada or Deshi	Chandi	Mesta	Total
Gulab Bagh	Below 5	4.82	4 39	—	—	9.21
	Acres	(52.33)	(47.67)			(100 00)
	5 Acres	35.00	18 00	2 00	–	55.00
	& above	(63.63)	(32 73)	(3.64)		(100 00)
	Total	39 82	22 39	2 00	—	64 21
		(62.02)	(34 87)	(3.11)		(100 00)
Kishanganj	Below 5	1 85	9.87	—	0 52	12.24
	Acres	(5.11)	(80.64)		(4 25)	(100 00)
	5 Acres	7.27	32 52	5.02	1.50	46.31
	& above	(15.70)	(70 22)	(10 84)	(3.24)	(100 00)
	Total	9.12	42.39	5 02	2 02	58.55
		(15.58)	(72 40)	(8.57)	(3 45)	(100.00)
Forbesganj	Below 5	10 68	0.84	—	—	11.52
	Acres	(92.71)	(7 29)			(100.00)
	5 Acres	23 40	17.92	3.12	—	44.44
	& above	(52 66)	(40 32)	(7 02)		(100.00)
	Total	34.08	18.76	3.12		55.96
		(60 90)	(83 52)	(5.58)		(100.00)
Total	Below 5	17.35	15.10	—	0.52	32.97
	acres	(52.62)	(45 80)		(1 58)	(100 00)
	5 Acres	65.67	58.44	10 14	1.50	145.75
	& above*	(45.06)	(46.96)	(6.96)	(1 02)	(100.00)
	Total	83.02	83 54	10.14	2.02	178.72
		(46 45)	(46.74)	(5.68)	(1.13)	(100.00)

Figures in parentheses are percentage to total area under jute.

* Agro-Economic Research Centre, Allahabad.

noted that none of the farmers having land holdings of below 5 acres in any area had grown 'Chandi' variety of jute.

On aggregate level, 'sada' or 'dalla' variety of jute occupied 46.74 per cent of the total area under jute followed by sona or tosa (46.45%), Chandi (5.68%) and Mesta (1.13%). The pattern of growing sona or tosa and sada or deshi was quite different in Kishanganj area than the other two areas, *i e*, Gulab Bagh and Forbesganj. It was found that the farmers in Gulab Bagh area devoted 62.02 per cent of the total area under jute to sona or tosa variety while in the case of Kishanganj area it was 15 58 per cent only and in Forbesganj area the farmers devoted 60.90 per cent of total jute area under sona or tosa variety. Farmers in the Kishanganj area devoted the maximum area, *i e*, 20.40 per cent under sada or deshi variety while the farmers of other areas namely Gulab Bagh and Forbesganj devoted only 34.87 and 38.52 per cent area under the above varieties respectively.

Cost of Cultivation

On an average per acre cost of cultivation of jute varied from Rs. 367.07 as lowest in Kishanganj area to Rs. 462.54 as highest in Forbesganj area. Per acre cost of cultivation of jute in Gulab Bagh area was Rs. 432.98. There was much variation in the cost of cultivation of different varieties of jute in different areas. Per acre cost of cultivation of sona or tosa variety of jute was estimated as Rs. 506.71 in Gulab Bagh followed by Rs. 415.75 in Forbesganj and Rs. 423.25 in Kishanganj area. While for other varieties of jute the cost of cultivation was relatively lower than tosa variety. On an aggregate per acre cost of cultivation of tosa variety of jute was Rs. 472.50 which for other varieties of jute, namely, deshi, chandi and mesta was Rs. 380.70, Rs. 352.19 and Rs. 284.65 respectively. It was noted that the average cost of cultivation of jute was higher, *i.e*, Rs. 429.25 in case of those farmers who had more than 5 acres of land than their counterparts (i.e., below 5 acres of land) where it was estimated at Rs. 382.73 only. But the position was quite different in the different selected areas. On an average per acre cost of cultivation of jute on small farms of below 5 acres was relatively low in Gulab Bagh and Forbesganj area while the same was higher on large farms of more than 5 acres in Kishanganj area (Table V-3).

Table V-3
Per Acre Cost of Cultivation of Different Varieties of Jute in Different Size Groups of Holdings in Selected Areas of Purnea District

(In rupees per acre)

Size Group of Farms	Areas	Varieties of Jute				
		Tosa	Deshi	Chandi	Mesta	Average
Below 5 acres	Gulab Bagh	476.97	328.29	—	—	406.08
	Kishanganj	350.81	379.74	—	294.23	371.73
	Forbesganj	372.56	414.28	—	—	375.60
	All	399.35	356.69	—	294.23	382.73
5 Acres and above	Gulab Bagh	510.80	318.80	220.00	—	437.49
	Kishanganj	441.67	357.85	333.06	281.33	365.84
	Forbesganj	479.14	406.09	466.35	—	485.08
	All	476.64	383.80	352.17	281.33	429.25
Aggregate	Gulab Bagh	506.71	320.72	222.00	—	432.98
	Kishanganj	423.25	362.94	333.06	284.65	367.07
	Forbesganj	445.75	492.43	466.35	—	462.79
	All	472.50	380.70	352.17	284.65	420.65

Varietywise analysis of cost of cultivation given in Table V-3 shows that smaller farms have below 5 acres in different areas.

Per acre cost of cultivation of tosa variety was higher, *i e*, Rs. 476.97 in Gulab Bagh area followed by Forbesganj (Rs. 372.56) and Kishanganj (Rs. 350.81) areas while in case of deshi variety it was higher, *i e*, Rs. 414.28 in Forbesganj area followed by Kishanganj (Rs. 379.74) and Gulab Bagh areas (Rs. 328.29) None of the small farmers were found growing chandi variety of jute. In Kishanganj area only those farmers who had land holdings of less than 5 acres were exceptionally growing mesta variety of jute. In case of those farmers who had more than 5 acres of land per acre cost of cultivation of tosa variety of jute was higher, *i.e.*, Rs. 510.80 in Gulab Bagh area than in Forbesganj (Rs. 479.14) and Kishanganj areas (Rs. 441.67). In case of deshi and chandi variety it was higher, *i e.*, 406.09 and Rs. 466.35 in Forbesganj area than in Kishanganj Rs. 357.85 and Rs. 333.06 and Gulab Bagh Rs. 318.89 Rs. 220.00 areas respectively.

Therefore it may be inferred that the cost of cultivation of tosa variety of jute was relatively low in Kishanganj area than in Gulab Bagh and Forbesganj while in case of deshi variety of jute it was lowest in Gulab Bagh than Forbesganj and Kishanganj areas. It was surprising to note that despite the lowest cost of cultivation of mesta variety of jute it was grown in only Kishanganj area by both the categories of farmers. It also shows that the cost of cultivation of jute was lowest for all the varieties of crops in Kishanganj area in comparison to other areas.

On an aggregate level, per acre costs of cultivation of tosa, deshi, chandi and mesta varieties of jute were Rs. 472 50, Rs. 380.79, Rs. 352.17 and Rs. 284.65 respectively. Per acre cost of cultivation of tosa variety of jute varied from Rs 380.79, Rs. 352.17 and Rs. 284.65 respectively. Per acre cost of cultivation of tosa variety of jute varied from Rs. 506.71 as highest in Gulab Bagh area to Rs. 423.25 as lowest in Forbesganj area while per acre cost of cultivation of deshi variety was highest, *i.e.*, Rs. 492.43 in Forbesganj area followed by Rs. 362.94 in Kishanganj and Rs. 320 72 in Gulab Bagh areas. The same trend was noted for chandi variety also of which per acre cost of cultivation was highest, *i.e.*, Rs. 466.35 in Forbesganj followed by Kishanganj (Rs. 333.06) and Gulab Bagh (Rs. 222.00) areas. Mesta variety was grown in Kighanganj area only and per acre cost of cultivation was Rs. 284.65, next highest to the cost of cultivation of chandi variety in Gulab Bagh area.

It may be seen that the cost of cultivation of almost all the varieties of jute except tosa was higher in Forbesganj area than in Kishanganj and Gulab Bagh areas. The highest cost of cultivation of tosa in Gulab Bagh area was mainly due to more cost of hired human labour, pesticides and other miscellaneous expenses.

On an average hired human labour accounted maximum share, *i.e.*, 69.08 per cent in total cost of cultivation of chandi variety while the respective shares of the hired human labour in total cost of cultivation were 59.65 per cent for mesta variety, 59.38 for chandi and 56.72 per cent for tosa variety. Bullock labour shared 22.96 per cent in total cost of cultivation of mesta variety while its respective shares for deshi, tosa and chandi varieties were 17.84 per cent, 15.24 per cent and 12.66 per cent only. Seed accounted maximum share of 4.45 per cent in the cost of cultivation of chandi variety followed by 3.83 per cent in case of mesta, 2.94 per cent in tosa and 2.48 per cent in deshi variety while share of fertilizer in the total cost of cultivation was highest for tosa variety which accounted for 19.51 per cent in the cost of cultivation followed by deshi (17.22%), mesta (12.17%) and chandi (6.98) varieties.

On an average per acre cost of cultivation of jute was estimated at Rs. 420.65 of which hired human labour accounted for 58.45 per cent followed by manure and fertilizer (17.89%), bullock labour (16.28%), seed (2.83%), etc. Per acre costs of hired human labour were highest, *i e.*, Rs. 286.65 in Forbesganj area followed by Gulab Bagh (Rs. 263.74) and Kishanganj (Rs. 187.31) areas while the cost of bullock labour was highest in Kishanganj in comparison to the remaining two selected areas. It may be seen that in Forbesganj area per acre cost of hired human labour, irrigation, and tractor charges was higher than in the two selected areas. While in Gulab Bagh area per acre cost of seed, pesticides and miscellaneous expenses was relatively higher than in the other areas. In case of Kishanganj area the cost of bullock labour, manure and fertilizer was higher than in Forbesganj and Gulab Bagh areas.

Per acre cost of cultivation in all the three selected areas was relatively higher on the large farms of more than 5 acres than on the smaller ones. Cost of all the inputs except seed was more on the smaller farms than on their counterparts. It was also noticed that small farmers in Kishanganj and Forbosganj did not use tractor while the large farmers in Forbesganj area used comparatively more tractors than the farmers in Gulab Bagh and Kishanganj areas.

If we analyse the per acre cost of cultivation of different variety of jute in different categories of farmers of various selected areas it may be seen that, on aggregate level, per acre cost of cultivation of tosa variety was Rs. 472.50 which was higher on the large farms, *i.e.*, Rs. 476.64 than on the small ones (Rs. 399.35). The position was same in all the three selected areas. In case of deshi variety per acre cost of cultivation was Rs. 383.80 on the large farms and Rs. 366.69 on the small ones. None of the small farmers had grown the chandi variety of jute in any selected areas, while the mesta variety was grown by both the categories of farmers in only Kishanganj area. It was found per acre cost of cultivation of mesta was higher on the small farms, *i.e.*, Rs. 294.23 than on the large ones (Rs. 33).

Average Yield

Per acre average yield of different varieties of jute in different size group of farms in various selected markets is given in Table V-4.

Table V-4 shows per acre yield of different varieties of jute on different sizes of farms of three selected areas of Purnea district. On an average per acre yield of jute was 4.23 quintal. The averagé yield of tosa variety was relatively higher, *i.e.*, 4.72 quintals followed by deshi (3 87 quintals), chandi (3.41 quintals) and mesta (2.97 quintals). It was observed that per acre yield of tosa variety was higher, *i e*, 5 03 quintals on the small farms than on the large farms (4 64 quintals) while in case of deshi variety the average yield was higher on the large farms, *i.e.*, 4.05 quintals than on the small ones (3.06-quintals) Since chandi variety was grown only by large farmers the comparison in yield rate between two categories of farms cannot be made. Average yield of mesta, which was grown in only Kishanganj area, was also higher on the small farms than on the large ones.

Table V-4

Per Acre Yield of Different Varieties of Jute on Sample Farm in Selected Areas of Purnea District

Category	Areas	Varieties				
of Farm		Tosa	Deshi	Chandi	Mest	All
Small	Gulab Bagh	5.81	3 20	—	—	4.56
Large		4.51	3.39	2 50	—	4.07
All		4.67	3.35	2.50	—	4.14
Small	Kighanganj	4.11	2.79	—	3.85	3.03
Large		3.23	3.51	3 19	2.67	3.40
All		3.41	3.34	3.19	2.97	3.32
Small	Forbesganj	4.84	5.48	—	—	4.89
Large		5 26	5.69	4.36	—	5.37
All		5.13	5.68	4.36	—	5.27
Small	Aggregate	5.03	3.06	—	3.85	4.10
Large		4 64	4.05	3.41	2.67	4.25
All		4.72	3.87	3 41	2.97	4.23

Areawise analysis of yield of jute shows that per acre yield of jute was higher in Forbesganj area, *i e.*, 5 27 quintals followed by Gulab Bagh (4.14 quintals) and Kishanganj (3.32 quintals) areas.

In case of deshi variety of jute per acre average yield was higher on the large farms than on the small ones in all the three selected areas. Since chandi variety of jute was grown on only large farms, therefore, comparison of yield rates of small and large farms cannot be made. But the average yield of the same was higher in Forbesganj area than the other selected areas, In case of mesta variety of jute per acre average yield was higher on the small farms than on the large ones. This variety was grown in only Kishanganj market area.

Therefore, it can be said, as a whole, the per acre average yield, except of tosa and mesta, was higher in almost all the varieties of jute on the large farms than on the small ones.

Importance of the Jute Industry to the National Economy of India—Problems and Prospects of Export Trade*

P B. Dey

India's share in the world trade witnessed a gradual decline from about 1.2 percent in 1960 to 0.6 percent in 1973 and to 0.5 percent in 1974 and 1975. Not only has India's share to total world trade shrunk, but her share also in exports of all less-developed countries taken together sharply declined from about 5 percent in 1970 to 3.2 percent in 1972 and to 2.9 percent in 1973. The above fact, therefore, underlines a persistently stagnant character of India's export trade. The pace of the economic development in India depends even now to a large extent, on the contributions of the traditional industries in the export sector, such as, jute, tea and cotton textiles which together constitute the major items in the commodity composition of India's export trade. The downward trend underlying the export trade in these commodities was largely due to the inabilities of these agriculture-based industries to hold their own against multiplying odds, both national and international, which have considerably weakened the competitive edge of these industries over years and which also remain largely unresolved in the absence of adequate and timely measures.

Jute industry is one of the major industies in India, employing about 2.5 lakhs workers constituting about 9 percent of total factory employment in India. The total assets of the industry account for an investment of about Rs. 130 crores and the average annual turn-over has been of the order of Rs. 330 crores. The jute industry contributes annually, on an average, about Rs. 250 crores of foreign exchange. The industry consumes annually about 7.5 million bales (180 kg.) of raw jute which is the most important cash crop grown in the eastern Indian States of West Bengal, Bihar, Assam, Orissa and Tripura. Some jute is also grown in Uttar Pradesh and Madya Pradesh. Mesta, an inferior species of jute, is mainly grown in Andhra Pradesh ; apart from the eastern Indian States. In jute agriculture, an estimated 40 lakh households are gainfully employed and in marketing and ancillary activities, another 17 lakh people are directly involved. Jute cultivation being highly labour intensive, a large number of agricultural labourers are also employed in it. In early fifties, it was estimated that jute employed about 45 percent of the total agricultural labourers.[1]

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* Calcutta.

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The importance of raw jute and jute manufactures in the commodity composition of foreign trade of India was well-recognised even during the early British rule, when, initially, raw jute, and subsequently jute manufactures-mostly jute cloth, constituted one of the most important commodities exported from India.[2] Even in late thirties, export of jute manufactures, cotton textiles and tea accounted for about 35 percent of total export and raw jute, raw cotton, oil seeds, metal, ore and raw wool constituted another 40 percent of foreign trade of India. By late forties, the share of jute manufactures, cotton textiles and tea had risen to over 56 percent. It may also be interesting to note that India's share in export of jute manufactures to the USA rose substantially from about 6.9 percent in late thirties to about 33.9 percent in late forties and jute goods came to be the major source of dollar earning for India.[3]

Even in the early fifties when economic planning was initiated in India, jute manufactures continued to occupy a major position in the commodity composition of export trade of India. In the First Five Year Plan, as against total exports valued at Rs. 3039.30 crores, jute goods alone accounted for Rs. 755.18 crores or 24.6 percent of total exports. In the Second Five Year Plan, as against total exports valued at Rs. 3046.25 crores jute goods alone contributed Rs. 583 90 crores or 19.2 percent of total exports. In the Third Five Year Plan, while total exports amounted to Rs. 3812 39 crores, jute goods alone contributed Rs 801,73 crores - or 21.0 percent of total exports. In three Annual Plans, as against total exports amounting to Rs. 3714.01 crores, jute goods accounted for Rs. 702.27 crores or 19.0 percent of total exports. In the Fourth Five Year Plan, total exports amounted to Rs. 8968.69 crores and jute good accounted for

1131.441 crores or 12.7 percent of total exports. It thus appears that, as a single item of exports, jute goods constituted an important commodity in the composition of the foreign trade of India.

The overwhelming economic importance of jute in the Indian economy naturally pre-supposes the existence of a public policy frame-work covering the entire gamut of agriculture, industry and trade—a frame-work within which, jute industry, jute agriculture and jute trade are expected to function complementarily. It is, therefore, necessary first to examine the nature of such a policy frame-work, if exists at all, and then to evaluate its impact on industry, trade and agriculture at different stages of the planned economic development in India.

In the First Five Year Plan, it was generally recognised that production of commercial crops was more influenced by price changes than that of food crops. Therefore, it was felt necessary that any attempt to offer price incentive of a varying order for different crops should be avoided. It was also felt necessary to have adequate control over prices of different agricultual commodities.[4]

In the Second Plan, it was felt that it would be difficult to maintain expanding export market in jute and cotton textiles in the face of competition, unless an extensive programme of renovation of the industries was undertaken. Under the circumstances, a high priority was given to the modernisation programme for jute and cotton textile industries. While the annual requirement of raw jute by the industry was estimated at 7.2 millon bales, measures proposed in the Second Plan for jute agriculture, included among other things, continuation of existing jute extension scheme, setting up of seed farm and construction of retting tanks.[5]

In the Third Plan, it was noted that investment on replacement in cotton and jute textiles fell short of their minimum requirements and that mills with large backlog of replacement were not in a position to provide resources for renovation commensurate with their needs. It was also acknowledged that during the Second Plan, there was stagnation in production of cotton and jute, and as such intensification of efforts in increasing production of cotton and raw jute was urgently called for. It was also accepted for the first time, as against the views generally held in the First Plan, that a minimum remunerative price for jute would provide necessary incentive for increasing production.[6]

In three Annual plans, practically no new ground was traversed in jute.

In the Fourth Plan, a truism was re-affirmed in that jute manufacturers were expected to contribute substantially to the export earnings of the country. As for raw jute, it was once more recognised that growth-rate in production of jute was relatively slow, and in order to increase production, such oft-repeated measures, as intensification of extension efforts, increase in supply of fertilisers and irrigation facilities coupled with co-ordinated research, etc. were also incidentally mentioned as remedies. The need for a policy for minimum support price for jute was also recognised, as a part of the remedial measures. The Fourth Plan indicated also, that a separate corporation was proposed to be set up which would take up the responsibility for price support and purchase operations from the State Trading Corporation, which was hitherto entrusted with these functions.[7] It appears, therefore, that an integrated and coherent policy frame-work for jute industry and agriculture was conspicuous by its absence at different stages of the planned economic development in India.

It appears also that importance of jute to the national economy of India has been only partly recognised and as such, it is necessary to consider some of the authoritative views on jute.

Several international authorities, while upholding the potential of jute, pointed out, time and again, that due to a policy vacuum, a comprehensive and well-defined long-term programme, touching all import facets of jute industry and agriculture was conspicuously absent in India, evidently because of inadequate realization of the importance of jute to the national economy of India.

According to the UNDP Jute Fact Finding Mission, importance of jute in the economies of India, Bangladesh and Thailand cannot be judged simply in terms of contributions the jute industry makes to the export earnings and the earnings of hard currency, but contributions of the industry to the value added in GNP or even the number of persons employed in industry and capital stock involved are equally important. The Mission, therefore, feels that if necessary counter-action is taken with sufficient firmness and speed, jute has a viable future.[8]

In 1969, the International Bank for Reconstruction and Development (IDA) in their report on India's export of jute manufacturers, observed, inter-alia, that most of the technical or financial measures designed for alleviating problems of jute industry, either had been taken too late, or were rather too limited. The measures being taken or contemplated at the present time also do not address themselves fully to the problems of the industry.[9]

Recently, an author has shown how India failed to adopt timely measures to counteract Pakistan's aggressive export promotion policy for jute since late fifties and how inaction in this regard cost India to lose her a near-monopoly position in the global supply of hessian and sacking.[10]

While advancing reasons underlying the slow growth of demand for the traditional exports of the developing countries, the Commission on International Development observed that sometimes economic policies pursued by the developing countries themselves amounted to systematic discouragement of exports as compared with other productive activities in the economy.[11] The case of jute export trade appears to be illustrative of the truth underlying the observation.

The Import and Export Policy Committee, 1962, also pointed out that an important lacuna in India's export effort was that, whereas target of high order has been theoretically drawn up, adequate steps had not been taken to dovetail import-export targets with plans and projects of development in the private and public sectors.[12]

If there were no well-defined public policy on jute, then, no less glaringly absent was a long-term entrepreneurial policy in the private sector. The entrepreneurial interest in jute industry is multidimensional; it being inter-locked with a host of other equally paying industrial interests, such as, tea, cotton textiles. engineering, chemical, sugar, etc. According to Report of the Jute Enquiry Commission, 1954, 75 percent of the jute mills were under the control of a dozen managing agency houses and of these twelve, only four controlled about 45 percent of the loomage.[13]

It appears that even after the change in the ownership of the jute mills in the Indian hands there was little change in the ownership pattern of jute mills.

It was, therefore, rightly pointed out by an authority that industries already developed by the British changed hands and passed not to industrial entrepreneurs but mainly to commercial and financial magnets. The old tradition of centralised management continued; the foreign coteries being replaced by small Indian family groups.[14]

Needless to say, such family groups could hardly be expected to have a long-term coherent policy on jute industry. As a consequence, there had been little plough back of profit to the industry and, on the past, a process of continuous outflow of profit took place.

The dismal state of jute industry had further been aided by a policy of nebulous approach to the problems of the industry followed continuously by the state where the industry is mainly localised and had also been accentuated by a mirky industrial climate begot by the political adventures, in particular, during the late sixties and the early seventies.

We shall now examine as to how, on the above background, jute industy fared in production and export trade during 1960-1975.

Jute industry in India has an installed production capacity of about 12 lakh tonnes a year, which at best, can be stretched up to 13 lakh tonnes with some adjustments in the spinning sector.

The table appended below shows India's production, export and internal consumption of jute good during 1960-1975.

Production, export and internal despatch of jute goods during 1960-1675

('000 tonnes)

Year	Production	xport	Internal consumption	Export as a p c. of production	Internal consumption as a p.c. of production
1960	1081	810	271	74.9	25 0
1961	970	760	278	78.3	28.6
1962	1186	874	303	73.6	25.5
1963	1236	875	333	70.7	38.0
1964	1271	931	378	73.2	29.7
1965	1335	929	378	69.5	28.3
1966	1120	746	406	66.6	36.1
1967	1156	769	388	66.5	33.5
1968	1085	671	435	61.8	40.0
1969	894	570	380	63.7	42.5
1970	954	549	441	57.5	46.2
1971	1087	641	477	58.9	43.8
1972	1110	640	515	57.6	46.3
1973	1037	591	445	56.9	42.9
1974	947	619	382	65.3	40.3
1975	1135	450	657	39.6	57.8

(Production total and percentage of export and internal consumption differ on account of despatch and consumption differences in reporting of internal data).

Source : Indian Jute Mills Association, Calcutta, for basic data.

It will appear from the above table that during 1960-1974, annual production of jute goods was lowest at 97 thousand tonnes in 196I and was highest at 13.3 lakh tonnes in 1965 ; the average annual production during this period being about 12.5 lakh tonnes. The average annual production thereafter worked out to about 11 lakh tonnes till 1968. The average annual production went further down to about 10 lakh tonnes during 1969 and 1970 and again regained to about 12.3 lakh tonnes during 1971 and 1972. It remained at 11.4 lakh tonnes in 1973. There was therefore, practically no improvement in the overall productive capacity of the industry which ever since remained stagnant, at the level of about 12 lakh tonnes a year. In other words, there was practically no new capacity creation or even capacity improvement in the industry during 1960 and 1974.

The annual export stood at about 8 lakh tonnes in 1960 and gradually reached its peak at 9.3 lakh tonnes by 1964. From 1965 onwards, it displayed a downward trend and actually came down from 9 2 lakh tonnes in 1965 to 7.4 lakh tonnes in 1966. Thereafter export sharply declined from 7.6 lakh tonnes in 1967 to the lowest level of 5.5 lakh tonnes by 1970. In 1971, because of Bangladesh debacle cutting supply from that country, export marginally improved at 7.3 lakh tonnes in 1971, but since 1972, it once again showed a declining trend. The export, as a percentage of total production, came down from the level of 74 per cent in 1960 to only 50 percent in 1973.

The singular noticeable factor, however, was the sharp increase in the internal demand for jute goods which progressively rose from about 2.7 lakh tonnes in 1960 to the peak at 6.1 lakh tonnes in 1972 with a marginal decline to 5.2 lakh tonnes in 1973. The rising trend in the internal demand for jute goods proved that a strong sheltered internal market had emerged over years, following, of course, to a large extent, the improved agricultural and industrial productivity generally in the country. While there is a just case for jute goods meeting the urgent nature of internal demand for packaging requirements of various agricultural and industrial products, the fact, however, remains that very little attempt has been made to dovetail the growing internal demand for jute goods with the urgent export demand, with a view to finding out the required surplus to meet the demand of the existing and also of the expanding export markets. This fact is borne out by the declining export trend in jute goods and ever-increasing internal demand thereof.

The table appended below shows production, export and internal consumption of hessian and sacking during 1960-1975.

Production, export and internal consumption of hessian and sacking during 1960-1975

('000 tonnes)

	Hessian			Sacking		
Year	Production	Export	Internal consumption	Production	Export	Internal consumption
1960	425	391	34	525	313	212
1961	394	358	36	494	284	210
1962	501	457	44	516	292	224
1963	529	464	47	507	243	251
1964	537	488	55	515	235	281
1965	529	448	54	591	284	288
1966	427	373	54	503	173	317
1967	463	382	56	481	186	286
1968	398	338	60	427	94	334
1969	287	252	61	307	49	314
1970	351	283	75	419	81	374
1971	320	271	69	484	116	424
1972	332	289	77	486	106	454
1973	325	242	99	425	84	377
1974	330	267	96	384	131	316
1975	297	226	77	607	81	504

(Production total differs on account of despatch and consumption differences in reporting of internal data).

Source: Indian Jute Mills Association, Calcutta.

It will appear from the table that production of hessian increased from 4.2 lakh tonnes in 1960 to 5.4 lakh tonnes by 1964 and then it gradually came down to about 4 lakh tonnes a year during 1966 and 1967 and thereafter remained at about 3.5 lakh tonnes a year up to 1973. Similarly export of hessian rose to its peak at 4.8 lakh tonnes in 1964 from 3.9 lakh tonnes in 1960, but thereafter it gradually came down to the level of about 3.5 lakh tonnes a year up to 1968 and then sagged further to about 2.7 lakh tonnes a year up to 1974. Contrary to this trend in export, internal consumption of hessian almost progressively increased from only 34 thousand tonnes in 1960 to 77 thousand tonnes by 1973. Incidentally, it has to be borne in mind that in hessian export India, on the past, enjoyed a monopoly and the persistent downward trend thereof, is the harbinger of an impending catastrophe to the future of Indian jute industry.

While in hessian India has still been holding her own, in sacking, however, her ouster from the world market has been almost complete, as revealed by the sharply declining export trend. Although sacking production has been maintaining an even trend, at the level of production at about 5 lakh tonnes a year, export thereof had progressively gone down from about 3 lakh tonnes in 1960 to only 49 thousand tonnes by 1969. Thereafter, export had remained at the level of about a lakh tonne per year.

On the contrary, internal consumption of sacking has tremendously grown over years, following, to some extent, as observed earlier, the overall improvement in the agricultural and industrial productivity in the country. Thus, from the level of about 2 lakh tonnes in 1960 it had more than doubled to 4 5 lakh tonnes by 1972 and to 5 lakh tonnes in 1975. The growing sheltered domestic market and lack of adequate and timely measures led to the decline of the sacking export from India to the eventual gain of Pakistan.

The expanding sheltered domestic market which grew, to some extent, at the cost of export market and the apparent failure to sustain sacking export from India, led to the eventual capture of the international sacking market by Pakistan at the cost of India. To what extent Pakistan was able to cash on India's failure in retaining the international sacking market, can be realised from the following table showing comparative position of both India and Pakistan/ Bangladesh in export of sacking.

It will appear from the table that as against India's abysmal fall in sacking export from the level of about 3 lakh tonnes in 1960 to a lakh tonne by 1974, Pakistan evidently improved from about a lakh tonne in 1960 to the peak of about 2.4 lakh tonnes by 1968. From 1969 onwards, her sacking export remained at the level of about 2 lakh tonnes a year up to 1970. With the jute industry facing extreme difficulties in the wake of Bangladesh debacle, export of sacking from that country no doubt declined, but it remained at the level of about 1.5 lakh tonnes a year during 1971-1973. In 1974, export of sacking from Bangladesh reached the level of about 2.2 lakh tonnes ; although in 1975 it substantially declined to a lakh tonne only.

Export of sacking from India and Pakistan/Bangladesh during 1960-75

(Qty : '000 tonnes)

Year	India	Pakistan/Bangladesh
1960	313	124
1961	284	140
1962	292	165
1963	243	158
1964	235	158
1965	284	181
1966	173	235
1967	186	233
1968	94	243
1969	49	241
1970	81	218
1971	116	147
1972	106	102
1973	14	172
1974	131	224
1975	81	109 (January —September)

Source :

1. Indian Jute Mills Association, Calcutta.
2. Pakistan Jute Mills Association, Dacca.

Thus, it appears that at a time, when the world demand for sacking did not show any sign of a decline, rather it displayed an improvement, Pakistan, following an aggressive export promotion policy, amongst other things, through the introduction of the Bonus Voucher Scheme, almost routed India from the international sacking market. In the absence of adequate measures for insulating export, the process of retreat was further aided by the growing domestic market on which the goods could be dumped, sometimes even at a price advantage, due to the failure to sell abroad.

Asha L. Datar has, therefore, been right in pointing out that at a time when international demand for sacking was on an even keel and India's prospect of exporting an increased quantity of sacking was quite high, she could not pursue a right policy in realising this achievable objective. In fact, she almost allowed the opportunity to be missed even when in 1964 and 1965 Pakistan did have some domestic problems. Even when Pakistan introduced measures to remove price differentials between Pakistani and Indian jute goods through the Bonus Voucher Scheme, whereby she was able to increase her jute export by about 62 percent in a single year, India remained a silent spectator of the gradual erosion of her established export markets and did nothing to overcome these obstacles.[15]

It has, therefore, been rightly held that the development of an internationally competitive jute industry in East Bengal is due to the industrialization policy of Pakistan, which by means of differential exchange rates, encouraged import of capital goods and discriminated export of unprocessed commodities as against export of manufactured goods This dumping price-policy had a substantial effect on the Indian jute industry whose share in the world export had declined considerably since the end of fifties.[16]

The story is not very different in other varieties of jute goods in which the average annual production has been of the order of about 2 lakh tonnes The principal items in this category were woolpack and corn-sack for which the major markets were Australia, New Zealand, USA and Canada.

In woolpacks, problems arising from the contamination of wool by jute, rather than price considerations, led to the search for alternative packaging materials in place of the traditional jute back. The contamination of wool by jute fibres caused extensive damage to textile machinery. This led the South African Wool Commission to experiment with paper woolpack and Australia with plastic containers imported from Japan especially those manufactured from polypropylene and polyethylene.

Thus when with the development of the light-weight synthetic woolpack by Japan, synthetic substitutes were coming up to replace jute in woolpacking and in conventional packaging used in corn sacks and other areas, India, it seems, did not make any worthwhile effort to counteract these growing ominous developments. According to the UNDP Fact Finding Mission, jute had been the traditional woolpack material since the wool trade began and until recently it was used for all the wool produced in and exported by the major producing countries in the Southern Hemisphere. Large number of complaints were channelled back from consumers in Europe, the United States, the United Kingdom, Australia, New Zealand and South Africa, beginning as long ago as the 1940's. The volume of these complaints continued, but because of poor communication, manufacturers of the packs in India and Pakistan failed to realise their significance.[17]

This resulted ultimately into the development of a synthetic woolpack, which practically substituted the jute woolpack at a colossal loss to India. According to the study made by the Administrative Staff College of India, Hyderabad, India lost her woolpack market to Japan and cotton bagging market to Pakistan by about 60 percent within a single year in 1965-66 to 1966-67.[18]

The position of jute carpet backing cloth, of which India is the largest single manufacturer, is no better than that in hessian and sacking, as evident from the following table. Jute enjoys a superiority to synthetics in respect of better lamination, flexibility, durability and non-shrinkability on heating. The jute backing was able to capture the fast developing tufted carpet market in the USA and with the prospect of product diversification, jute carpet backing production expanded considerably throughout the sixties following an investment of Rs. 100 crores and the installation of broad-looms during the mid fifties and end-sixties.

The table appended below shows production and export of jute carpet backing cloth from India during 1960-1975.

Production and Export of Carpet Backing Cloth from
India during 1960-1974

(Qty : '000 nonnes)

Year	Production	Export	Export as p c. of production
1960	35	35	100.0
1961	42	42	100.0
1962	58	58	100.0
1963	88	88	100.0
1964	107	107	100.0
1965	100	100	100.0
1966	132	132	100.0
1967	342	142	100.0
1968	180	180	100.0
1969	245	181	73.8
1970	131	139*	106.0
1971	218	253*	116.0
1972	200	188	94.0
1973	185	175	94.0
1974	146	143	97.0
1975	122	108	88.5

(*Balance from previous stock).

Source : For Basic Data : Indian Jute Mills Association, Calcutta.

It will appear from the table that production of carpet backing cloth witnessed a sharp increase to about 2.4 lakh tonnes in 1969 from a negligible quantity of about 35 thousand tonnes in 1960. The production gradually rose to its peak at 2.5 lakh tonnes in 1969, but declined to about 1.3 lakh tonnes in 1970. Although production again picked up to 2.0 lakh tonnes a year in 1971 and 1972, it continued to show a declining trend from 1.8 lakh tonnes in 1973 to 1.4 lakh tonnes in 1974 and to 1 2 lakh tonnes only in 1975.

The overall demand for carpet backing did not sag, to any appreciable extent, except in the early part of the seventies, when it did, due to the world recessionary condition and a decline in the tempo of the house building sector of the American economy on account of the restrictive credit policy. Therefore, with a possible technological improvement in the manufacture of a light-weight jute backing and with a competitive price line with the synthetic backing, buttressed further by a policy of relative price and supply stability, it was just possible for jute backing to hold its own against the fast advancing synthetic backing, for, other things remaining the same, the choice between jute and synthetics is one of price and supply considerations. In the absence of countervailing measures technological, fiscal and promotional, jute gradually lost its ground to synthetics, in case of primary backing, from 80.6 percent to 26.7 percent and in secondary backing, from 71.1 percent to 64 1 percent during 1968-1974. The decline in consumption resulted ultimately in bringing down export of jute carpet backing from 100 percent of production till 1968 to 88.5 in 1975 and in quantitative terms from 2.5 lakh tonnes in 1971 to 1.2 lakh tonnes in 1972 and finally to only a lakh tonne in 1975. Even the recent fiscal measures taken to help the export of carpet backing, do not appear to have any visible impact on export of jute carpet backing cloth.

It appears that efforts directed towards product diversification and development of new products such as, jute decorative fabrics and other speciality goods, also fell far short of the task. While a potential demand for jute specialities like decorative fabrics, existed primarily in the USA, the USSR, East and West Europe and the prospect of unit-value realisation in these products were also quite high, it appears that very little efforts were made to devise comprehensive production and marketing programmes for these new varieties of jute products.

The jute goods have been classified as 'Traditional Commodities'. There does not appear to exist any technological or economic criteria on the basis of which certain industries or certain products can be termed as traditional or as non-traditional. Perhaps those industries that were developed generally with locally grown raw materials and that enjoyed some comparative advantages in the earliest phase of industrial development and had also established markets requiring very little promotional efforts, came to be termed as traditional industries. Since in India, industries like jute, cotton textiles and tea, grew at the earliest stages of industrial development and developed their own markets, these industries thus came to be known as traditional industries. The general policy framework for the individual industry is normally expected to take care of the measures—monetary, fiscal and promotional together with content, coverage and manner of extension of such measures in the light of a particular industry's needs and requirements necessary for maximising production and export. Therefore, some economic justifications hardly exist for an artificial dychotomy in the classification of industries into traditional and non-traditional. It follows, therefore, that there exists very little economic or commercial justifications to deny the jute industry or, for that matter, any industry, consideration of whatever assistance or incentive it deserves in the overall national economic interest.

In India, there exist indeed some economic and technological justifications for the development of the so-called non-traditional industries and also for liberal provision of imported raw materials, components, finance and other fiscal incentives to these industries, at least at the initial stages of growth. However, in India, concessions in various forms have been rather liberally provided to many industries without adequate cost-return and techno-economic evaluations at different stages of their development. It has, however, to be realised that ultimately, export demand for many of these new-fangled commodities in which India does not possess a comparative advantage, is likely to taper off with the indigenous development of such industries through a policy of import substitution. While a heavy input-subsidisation scheme may create a temporary export boom, if the past experience is any guide, such a short-lived boom is unlikely to last long, once the scheme of disproportionate subsidisation is withdrawn. In the case, however, of agriculture-based industries, like jute, cotton and tea, India enjoys some comparative advantages in having an indigeneous raw material base, which, in fact, circumscribes development of these industries in such geographical regions as are denied of nature's raw-material endowment.

Therefore, a strong case exists for imparting sufficient strength to these industries through a long-term programme of rationalization of their production and marketing structures, with a view to reviving their competitive strength in the world market.

It appears, however, that even at the end of the Fourth Plan, self-sufficiency could not be attained in fabrication of machinery and equipment consistent with the jute industry's annual requirements for new installation and replacement. As a result, a number of jute mills, because of their very old machinery complement and poor maintenance, have less than optimum productivity and in turn, also turn out inferior quality of goods and in some cases, even below the acceptable standards. The red-line grouping of jute mills by the USSR on the basis of their quality performance is a pointer to this situation.

During the Fourth Five Year Plan the jute industry, as revealed by the index value of industrial production (base 1960=100), achieved a negative growth-rate of 2.5 percent, as against, a targeted growth rate of 5.1 percent. The main reason for the negative growth was that apart from occasional spells of raw material and power shortage, the existing capacity actually came down by an estimated 13 percent in 1973-1974 from the level of 1968-1969, although capacity utilisation ratio marginally improved from 73 in 1968-1969 to 74 in 1973-1974.[19]

The problem of finance to jute industry has always been a cinderella. The total fund requirement of jute industry in respect of raw material, stores and other inventories including export finance has not been very realistically assessed as yet.

The industry-wise break-down of re-discount assistance extended by the Industrial Development Bank of India shows that in 1974-1975, as against the total re-discount assistance of Rs. 38 crores extended to the textiles group of industries, only Rs. 1.6 crores had gone to jute industry.[20]

The problems which the jute industry have been facing are amenable to discipline and also solutions through both short-term and long-term measures aimed at actions principally in two important areas pertaining to removal of the basic structural imbalances in the industry and to the strengthening of the marketing areas which are at present inadequately looked into and almost neglected.

A thorough techno-economic survey of each of the manufacturing units comprising the industry to assess the industry's health seems long over due. This is necessary also to assess the financial problems of the industry and to understand the techno-economic problems of manufacturing quality goods with comparative cost advantages.

Amongst short-term measures which call for rather quick action, it is necessary to have a rational price policy for various jute goods in particular, for export. In export a stable range of prices for a particular construction for a reasonable future, creates conditions conducive to the buyers to plan their purchase programmes on a long-term basis rather than on scattered parcels basis. This is indeed more important in the areas of industrial usages of jute goods in advanced countries. Even in agricultural uses, a stable price range of a particular variety of jute goods for a reasonably longer period enables the buyers to plan their buying programmes accordingly. However, a stable price for a particular construction for a future period need not necessarily be a fixed price as such, but it should be indicative of a specific range within which prices may vary within a specific period of time.

The mechanism in gunny trade evolved in its historical set-up, has outlived much of its utility in the modern context of marketing. There is enough scope for simplification of the existing trade mechanism by imparting an element of direct approach between the the seller and the buyer as generally followed in the case of marketing carpet backing cloth. Such a reform is likely to bring down some of the components of marketing costs thereby reducing eventually the ultimate per unit landed price of the goods. Reforms are also long over due in many an area relating to rules and procedures connected with futures market, as also, those relating to compliance of procedural export formalities at various levels. The growth of export trade depends upon, amongst other things, the country's ability to keep up the delivery schedules. One of the principal reasons behind Japan's tremendous success in export trade is her meticulous adherence to the delivery schedules. As things stand at present, non-delivery and delayed-delivery in between them, constitute the bulk of the complaints in jute goods trade. While difficulties associated in manufacturing and delivering contracted goods due to genuine reasons like strike and lock-out are quite understandable to the international buyers and are even recognised as such, as force majeure factors beyond one's control ; non-shipment or delayed shipment unassociated with any of these grounds are definite annoyances to the international buyers, resulting in the loss of confidence in seller's ability. It is also not a very uncommon practice in the trade that, often a seller tries to deliver the goods against a higher valued contract made later, at the expense of a lower valued contract made earlier. Obviously such a practice shakes the confidence of a potential buyer.

One of the important reasons for non-shipment or delayed shipment of jute cargo is the non-availability of adequate sailing for a particular destination or non-availability of adequate space in an available vessel. The short-shipment and the shutting-out of jute cargo are also quite common in jute export trade. While such problems are generally, few and far between in case of Atlantic and Pacific coasts and the USSR ports, they often do arise in case of the UK and the continent and are more pressing in case of Middle East Asian and Gulf countries. Since almost hundred per cent jute cargo is shipped from the port of Calcutta, it is quite possible to quantify the likely availability of cargo for a specific destination at a given point of time, and on that basis, it is quite possible to work out a sailing schedule for a regular interval, for a particular destination on the basis of the availability of a viable volume of cargo.[31]

Since export trade in jute goods is generally carried out on forward delivery basis, it is necessary to regulate the futures market in jute goods with the twin objectives of controlling the speculative market forces and ensuring delivery of jute goods in actual export. Therefore, it is necessary to strengthen rules and regulations pertaining to the futures market in jute goods, so as to render it an effective instrument of genuine export sales rather than of speculative sales.

The removal of the unnecessary and parasitic tiers now existing in the trade will also go a long way in boosting up export of jute goods and also in revitalising jute industry and jute trade in the national economic interests.

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The Jute Mill Industry : Its Problems and Solution

A. K. Sur*

India's jute mill industry is now in the grip of a crisis. This crisis is due to shrinkage of overseas demand, keen competition from synthetic products, under-cutting of prices by Bangladesh and unremunerative prices in the domestic market. India's jute mill industry is so poised that it has to depend for its viability on the overseas demand for jute goods. The shrinkage in the overseas demand for jute goods has not occurred overnight. It dates back to the early '50s when on account of stockpiling due to Korean War there was an unusual demand for jute goods. It was at that time the government imposed exorbitant export duties on jute goods. That sent up the prices of jute goods skyhigh. As the duties were retained even after the demand for stockpiling had gone off the scene, the normal users of jute goods in the U. S. market (which is the principal market for Indian jute goods) were naturally attracted towards cheaper materials offered by the synthetic industry. And as it requires installation of special types of equipment for use of synthetics as packing material, those who had taken to the use of synthetic material could not possibly scrap the installations to show their patronage again to the jute goods, even when the prices of jute goods substantially dropped as a result of the reduction in the export duties on jute goods.

A severe jolt to our export trade in jute goods came when rupee was devalued in June 1966. Since then the quantum of exports has steadily declined. As a matter of fact today we export only half the quantity of jute goods that we used to export before the devaluation of the rupee. Any advantage that could have accrued from devaluation of the rupee was completely neutralized by countervailing duties levied simultaneously on jute goods which continued with minor changes until April 21, 1976. But the abolition of the export duties on jute goods in 1966 could not solve the problem of the jute mill industry. This is due to the reason that the resultant high prices of jute goods which were in force during the period of the imposition of the export duties, served as a stimulus and gave a boost to expansion of capacity by the synthetic industry as well as to the rival jute industry of Bangladesh. So the abolition of the export duties on jute goods did not enable the Indian industry to recapture its market abroad. At present the main difficulty of the industry to offer competitive prices abroad is high cost of production. So far as raw material is concerned, the government has been wise enough to keep it pegged at the minimum grower price for it, basis Assam Bottoms at the existing level of Rs 135 per quintal. So the price of raw material provides no headache to the industry at present. Its principal headache at the moment is a steady escalation of costs under several heads of its fibre conversion economy principally wages. That the wage cost for the jute industry is highest as compared with the wage cost of other industries in India will be evident from the fact it is between 28 and 30 per cent of total cost as against only 15 per cent for other industries.

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Inasmuch as the demand for jute goods has been imperilled by the factors noted above, there has been a steady accumulation of unsold stocks with the mills. Financing of the accumulated stocks has led to a rapid erosion of the finances of the industry. To obtain fresh finance for lubricating the mechanism of production, many mills are now compelled to make distress sales of goods at unremunerative prices. But evidently this is no solution of the problem. The problem that may be considered as vital today is to make the industry financially viable. Lack of financial viability has led to continued closures, retrenchments, lay-offs and lock-outs. It is reported that 37,000 workers have been affected thereby. This state of things is continuing since March 14 when 11 jute mills first pulled down their shutters. The affected mills are the Union Jute Company, Budge Budge Jute Mills, Meghna Jute Mills, Naihati Jute Mills, Waverley Jute Mills, Sree Gourisankar Jute Mills, Alexandra Jute Mills, Bharat Jute Mills, Khardah Jute Mills, Premchand Jute Mills, and Barnagore Jute Factory. Though the government has been endeavouring to re-open the mills, yet no worthwhile outcome has resulted. Reduction of the working hours with more employment of labour is also no solution of the problem. It will merely have a cost-push effect, and will provide no long-term solution of the problem by casting any impact on the demand for jute goods. A FAO report has recently suggested that an increase in the productivity of raw jute and reduction in the cost of production of the mills, over the long run, are the only way of ensuring the price competitiveness of the jute goods in the world market. But this too also provides no solution of the problem since there are now only limited signs of revival of demand and there is intrinsically weak competitive position of jute goods vis-a-vis its synthetic substitutes, even with cash assistance for exports.

In the domestic market too it is stated the multi-point sales tax and the excise duties are putting a great burden on the industry. So far as excise duties are concerned the industry was erstwhile expecting some relief, but it is now disappointed over the announcement by the government early in September this year that no change in the excise duty was contemplated.

Obviously, the industry is now in the worst of times. Some of the delegations attending the UNCTAD IV meeting at Nairobi recently, expressed the view that uncertainty of supply and wild price fluctuations have accelerated the substitution of jute by synthetics despite increased petroleum costs. It was observed there that the best approach to the problem was not one of production control and price support measures, but the reverse. But this too would not provide a long-term solution of the ills that infest the industry today. As days are passing the main problem of the industry, namely getting a hold of the foreign market is getting worse and worse. Some of our customers are setting up allied fibre industry to meet their own requirements of packing bags Sudan's kenaf factory is an instance. This has gone on steam in February this year with a capacity of producing 3 million bags. This factory is expected to meet at least 25 per cent of the country's bag requirement. With a view to achieving an export surplus in due course, the Sudanese authorities are planning to set up four more kenaf manufacturing plants in Upper Nile, Blue Nile and Gezira provinces. But despite these new developments elsewhere, the Government of India has proposed to create new capacity during the Fifth Plan by setting up new mills as well as by modernizing the existing mills. For the purpose of modernization the government has lately proposed to give a soft loan of Rs. 100 crores to the jute mill industry.

Evidently the outlook of the industry is getting more and more obscure. What appears to be commonsense solution of the problem is economizing of cost and diversification of production. So far as economizing of cost is concerned the first attack should be on the malpractices of mills in regard to both purchase of raw materials and of stores and sale of finished goods. These malpractices are well known to all those who are acquainted with the affairs of the jute mills. An official probe into these malpractices is needed. Then there is need for research and development to effect economics in costs. Not only research and development, but also market promotion activities are needed. There is no doubt that the industry has in the past systematically neglected research and development, market promotion and cost reduction. Many of the deterrents like export duties have now been removed. So it is high time now for the industry to make every effort to put itself on a viable basis. Diversification may also be attempted by the industry. Some of the mills have diversified their activities (like Birla Jute, New Central Jute, etc) and in the past it has been found that diversified mills have produced better working results than others. Long-term credit needed for this purpose may be extended by the financial institutions provided they keep a close and strict watch over how the mills are run.

Jute Production 1975-76 Season

The FAO Group noted that world production of jute, kenaf and allied fibres was now expected to reach 211.5 lakh bales (3,806,000 metric tons) in 1975-76, slightly less than the low level of the previous season. Export availabilities were anticipated to be barely sufficient to meet demand and closing stocks in the major producing countries were likely to be reduced to low levels.

The production of jute in Bangladesh in 1975-76, as 45 lakh bales (810,000 tons), was only slightly larger than the extremely small 1974-75 crop, and came from a reduced area of 1.2 million acres which reflected the shift in land from jute to paddy. Good weather had raised yields considerably, particularly on the 3 lakh acres which had come under the intensive cultivation programme. Both export sales and shipments, although slow in the early months of the season, had improved recently and as no delay was anticipated in shipping jute now being sold, it was expected that 22 lakh bales (396,000 tons) would be exported by the end of the season. Following a reduction in mid-July, the export price of BWD had been maintained unchanged

(Continued on page 392)

International Tea Promotion Association : India's Point of View

Himansu Roy*

FAO-contemplated International Tea Promotion Association is under swift process of taking a final form. Representatives of all tea producing and exporting countries are due to meet this September at Geneva to discuss in broad outlines the function of this association and the contribution of each member country to its fund. It is evident that the powerful area of tea trade still prefers generic promotion to prevail.

The respective merit-claims of uninational and generic promotion are an unsettled issue. The general view however is that generic promotion should have precedence ; for, any common problem can be solved only by a determined common action of all interests concerned. But this sharply brings to fore that each common problem bears diverse national interests that corrode the common interest. The national interest of some tea producing and importing countries is so different and pronounced, economically and politically, that they may prefer not to be an associate or to be an unwilling associate in any matter of common problem. The non-associates gain by this. For the benefit arising out of the solution of a common problem is available to both associates and non-associates. The unwilling associates may be more unwilling and may gain more than the close associates if they have the clandestine backing of rich tea importing countries. One more fact is that in generic promotion smaller producers and exporters get greater benefits than those of the larger ones for the former have greater advantages in the matter of expansion of acreage, age of bushes, labour cost, modernization and governmental patronage.

What may seem to be an abstraction so long may be founded by reviewing the performance of the International Tea Market Expansion Board. The Board was established at the instance of the

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* Calcutta.

International Tea Committee on the 15th July 1935 to coordinate the propaganda campaign of Indian, Ceylon, Indonesia and British East African teas in foreign countries and to promote an organization that would effectively implement the agreed common policy of these countries on direction and control of such campaign. The Board set up Tea Bureaus all over the world but their campaign was mainly concentrated on the US and Canada. The campaign cannot be said to be a success as established from the fact that in about 13 years time (1938-1951) the annual increase of export of tea to the US was only 2.4 per cent and to Canada 1.3 per cent. One of the important reasons of the failure of the campaign was the unwillngness of the (British) planters and traders to expand market. For close monopolistic competitien was more rewarding to them. The gradual built-up of excess capacity and consequently the growing pressure for disposing of surplus teas were also a contributing factor.

Spending about 52 per cent of the total expenditure incurred by the Board during its 17 years of existence the tea authority of India eventually understood that it spent too much for too few. With a lot of disgust it left the Board. But this is only the superfluous way of seeing the truth. The truth may be found in the following statement : "The phenomenal increase and dispersion of production and consumption, increase in yield and yield potentiality, decentralisation of markets and the growth of developing countries as the actual and potential balance for the industry on the one hand and the strong attitude of the producing countries to maximise national interest conforming to certain social objectives on the other are working hard to corrode the traditional foundation of the industry. This conflict between fixture and flow has its early manifestation in the dissolution of the International Tea Market Expansion Board in 1952 and then in the termination of International Tea Agreement in 1955." (Himansu Roy, Tea Price Stabilisation : The Indian Case, p 116B).

What India has experienced by now is that in case of joint promotion it is not India but her partners who have been more benefited and where the promotion is uninational (with or without the cooperation of local traders) it turns to be highly unsatisfactory. An instance in point is the activity of Tea Council formed in 1951 at the joint effort of India, Ceylon and Indonesia and some members of local tea trade. Before the formation of the Council the average annual imports of tea during 1946-50 in the US from India, Ceylon and others were in million lbs 38.4, 35.6 and 18.4 respectively.

After the formation of the Council the corresponding figures for 1951-55 were 36.8, 39.2 and 25.0 and for 1956-60, 28.9, 45.3 and 33.6. (Report by the Tea Delegation to the United States and Canada 1962, para 2, p 2). Evidently, the Council returned India with a progressive fall in exports in the US and rewarded Ceylon (Sri Lanka) and others with progressive rises. Interestingly, India had once spent 320,800 dollars annually for the Council's promotional works.

The situation was almost equally pathetic in Canada where also India campaigned through Tea Council. India's exports to Canada declined from 21.2 million lbs in 1953 to 15.7 million lbs in 1961 while during the corresponding period Ceylon's exports to Canada increased from 17.8 million lbs to 18.1 million lbs. (Ibid., para 1, p 10).

The performance of non-uninational promotion, as placed above, seemly concludes that uninational promotion should be tried with all earnestness. The Tea Delegation to Australia, New Zealand and Singapore (1962) strengthened this logic by reporting that "Ceylon's consistent uninational campaign over the last ten years has created an impression amongst the Australians that much of the world's tea comes from Ceylon." (p 14). The Delegation however at the final moment suggested uninational promotion in addition to joint promotion. This seems not logical. For, straightway, if all other tea producing contries adopt this mixed method the tactical advantage of India will be lost in generality and eventually will go away the generic content of promotion from the mix.

We have to choose then either uninational promotion, with or without the collaboration of local traders, or generic promotion with adequate safeguards. The idea of generic promotion with adequate safeguards, is visible in the 'global quota system' that restricts exports of different producing countries. If it is tagged prudently to generic promotion it comes to that any extra opening in world market due to the generic promotion has to be apportioned by the member countries according to certain 'quotas'. This approach has its type shortcomings concerning fixation and underutilization of quotas allotted to one and the reaction of the monopolistic policies of the producers on the importing countries, to name a few.

In support of uninational promotion it may be reasoned, in Indian context, remembering her commanding height in production and exports and vastness with viability of internal market, that it can succeed in raising the image of Indian Tea making possible the accurate evaluation of the relationship between costs of promotion and the size of rewards, intensive cultivation of each market in her own way adopting techniques most suitable for each one.

The great task of uninational promotion should be the functions of the Tea Trading Corporation of India. The Corporation shall have a directorate for promotion which in addition to promotional function shall undertake intensive research in market possibilities in foreign countries and evolve the best fit techniques of promotion for each importing country. In the matter of promotion it should ever be kept in mind that promotion has to be intensified mostly in developing countries and, secondly, an idea should be raised that Indian Tea means tea blended with hundred per cent Indian teas. This will remove the 'filler" status, an important source of price instability, of Indian teas.

(Continued from page 388)

at £155 per long ton f o.b. Chittagong-Chalna, 90 days sight, and only some small increases had been made in prices of the higher grades and of cuttings.

In India, production in 1975-76 was estimated at 55 lakh bales (990,000 tons), some 3 lakh bales less than the small crop of the previous season. Acreage had been reduced as a result of the shift in land from jute to paddy, and the resulting shortage of supply made it likely that 4 lakh bales would be imported. Despite the short supply, internal prices remained depressed at their minimum levels. Mill consumption was being maintained, and it was anticipated that the carryover at the end of the season would be extremely small.

The FAO Group noted with concern that the level of activity of the jute industry in Western Europe had dropped sharply relative to a decade earlier. It observed, moreover, that the type of activity had changed considerably during this period, and that the industry which remained had become an increasingly specialized one, which tended to concentrate on carpet yarns, wall coverings, and other types of goods the markets for which were more difficult for Asian manufacturers to enter.

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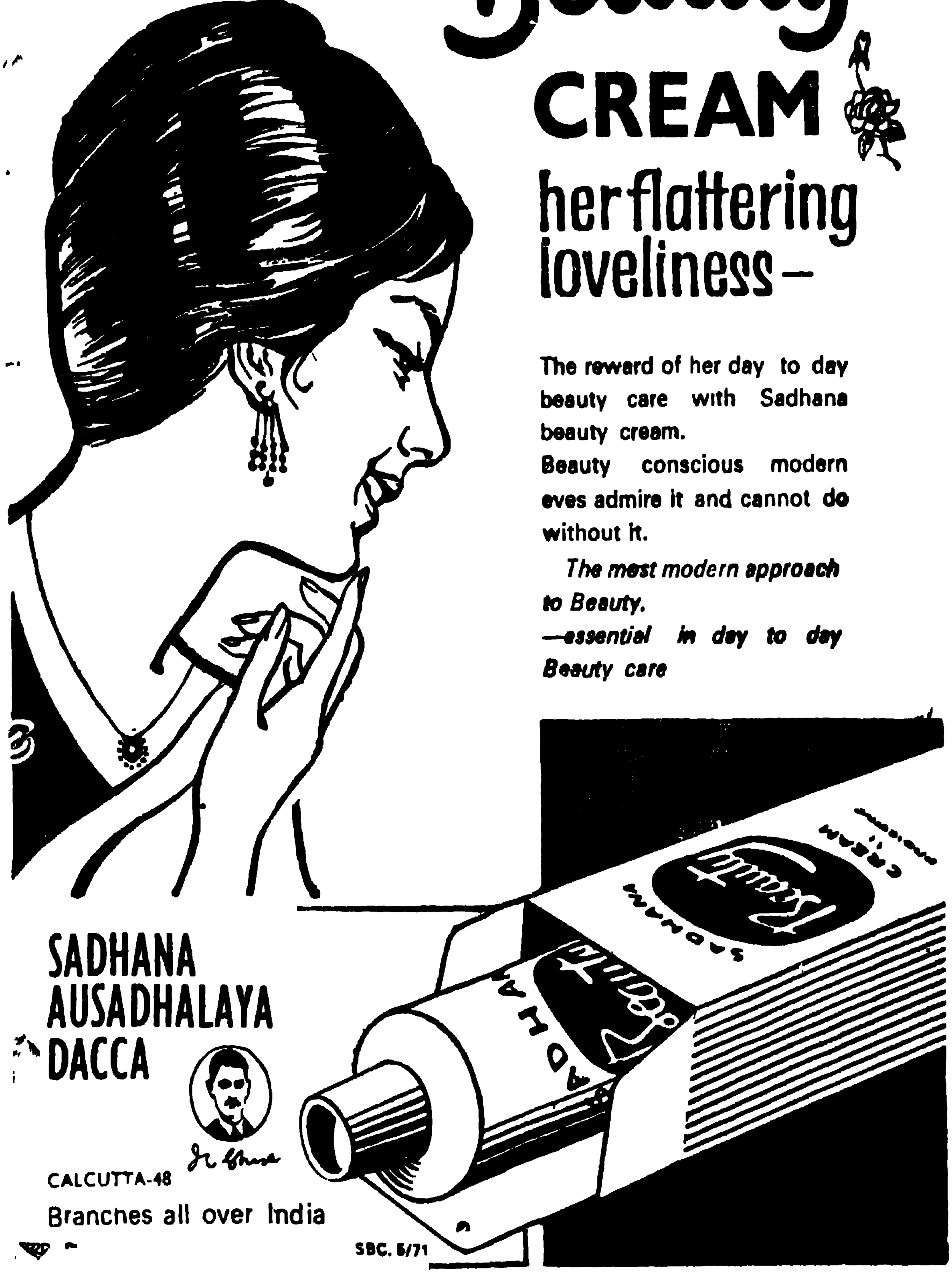

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Contents

Editorial

397 Revival after Repression

Feature

399 Employment and Prices

Articles

Asok Kumar Chakrabarti
401 A Review of the Attitude and Employment Potentiality of the Commercial Banks of India

K. Sain and Bhanudeb Bagchi
413 Illiteracy and Development of Rural Economy

G. Saibaba
417 State of Indian Agriculture : Some Highlights of Agricultural Census

G. D. Vashist
424 Changing Pattern of Land Utilization in Himachal Pradesh

N. S. Lingayatwani
430 Talking of Tourism

ECONOMIC AFFAIRS

Volume 21 November 1976 No. 11

Revival after Repression

The Union Finance Minister Mr. M. C. Subramanium feels uneasy at the swift rise in wholesale prices of over 10 per cent in the current financial year till October 2, which is more than double the rise during the corresponding period of the previous financial year. He is inclined to correlate the increase in prices to increase in money supply. This is commonly to be the first reaction. For the bank credit to commercial sector recorded an increase between the end of March and October this year by more than three times compared with the increase in corresponding period of the last financial year, i e., from about Rs 313 crores to Rs 1062 crores. He finds difficult to compromise with the statement that the increase in bank credit was largely due to the advances to finance food procurements. For in the last two weeks of September bank credit for non-food procurement purposes rose by Rs 119 crores while food procurement credit declined by Rs 20 crores. The Reserve Bank of India has raised the reserve requirement of the scheduled banks from 5 per cent to 6 per cent of their demand and time deposits effective from 13th November. But things have not improved at all.

Mr. Subramanium has shown anxiety over wrong point, the money factor. For what was freezed (money) and repressed (prices) cannot be kept as such without inviting greater depression and unemployment for the economy. In Emergency the prices declined not because of the rise in production commensurate with demand (unrepressed, not to speak of at sensitive points) but partly because of trade panicky (DIR and MISA) and partly because of money freeze and the back-work of unemployment on prices. This pushed some growth industries down to greater distress supported by the unsteadiness of the oil-led international market, politics in trade and aid apart. Now that the economy has to be lifted from repression to its normal life money has, to be pumped into income stream to create additional demand before supply. This has resulted in reappearance of all the basic ills which prevailed the economy before it was ruthlessly repressed. The Government feels helpless. For by commitment, impounded wages and dearness allowance had to be released, banks in competition have to be more assertive in their policy of high-cost-high-surplus to satisfy both the employees and the public sector authority, that is, in effect, they have seized all opportunities to attract more deposits and expand more credit undaunted of the measure of reserve requirement, and the Government itself is indulging in employment-spending by encouraging banks to lend liberally to unemployed for tertiary purposes. Itself again to save the growth industries is creating buffers and arranging 'soft loan window' besides opening of luxury 'nursing home' for the growing number of princely 'sick' industries. There is more myth than reality in the policy of 'quick return' investment. For there is no instant return, i.e., output without lag. So any sort of investment at the first instance is bound to push up the prices if the extra earning is not freezed. But there is no bright expectation in the suggestive imagination. For the economy is threatened by a huge number of socially unsecured unemployed, who live on the bread of the earnings of some others corroding their savings. Ironically, more the national income is distributed in favour of the poor and more the employment is created below the poverty line more acute will be this problem.

It is wrong then to think in terms of alternative : Save the economy from a fall or the prices from a rise.

This way of seeing the economic laws is not correct. Growth and prices are directly correlated. The point is how to support the continuous growth by, paradoxically, the rise in investment, rise in prices, rise in consumption, rise in saving, and rise in real wages. This riddle can be solved not by continuous or periodical repressions of the economy but by authoritative direction of the economy at all sensitive points. Alternatively, let the economy proceed through its course of errors and trials taking the risk that in a situation of acute crisis it may jump on the political lap of a big power.

Employment and Prices

Employment

During June, 1976 an increase of 10.9 per cent, was noticed in the number of registrations effected at the various Employment Exchanges over the previous month as compared to an increase of 33.0 per cent. observed in the corresponding period of last year. The total number of applicants on the Live Register at the end of June, 1976 was 9,609 thousands as against 9,535 thousands at the end of the preceding month, thus registering an increase of 0.8 per cent. The total increase since June, 1975 works out to 9.3 per cent.

An increase of 2.9 per cent over the previous months was noticed in the number of vacancies notified for submission action to the Employment Exchanges during June 1976. The number of Employers utilizing the services of Employment Exchanges increased from 13,378 during May, 1976 to 13,891 during the month under report, thus registering an increase of 3.8 per cent

The particulars of 417,005 applicants were forwarded for available job opportunities during June, 1976 as against 485,095 in the preceding month.

The summary statistics of Employment Service activities are presented below :

Particulars	June 1975	May 1976	June 1976
Registrations	503,886	505,933	561,207
Applicants on the Live Register (at the end of the month) (000's)	8,791	9,535	9,609
Employers utilizing the services of Employment Exchanges	11,379	13,378	13,891
Vacancies notified for submission action	55,694	68,877	70,890
Other notified vacancies	881	625	1,751
Placements effected	30,919	40,322	42,763

The main reasons of closures of many factories that have increased the number of unemployed were : shortage of raw materials, accumulation of stock, financial stringency, lack of work, loss in business, off season, shortage of coal, break-down of machinery, lack of orders, etc. The reasons for the retrenchment and lay-off were more or less the same as for closures mentioned above and also included power cut/shortage, surplus labour, slump in the market, etc.

Price

The Wholesale Prices as measured by the official index (with the year ended March, 1962=100) increased by 4.0 per cent to 308.2 during July, 1976 when compared to 296.3 for June, 1976. The index at this level was lower by 0.3 per cent when compared to July, 1975. During the month under review, index for Food Articles increased by 5.4 per cent to 340.1, Industrial Raw Materials by 9.1 per cent to 307.9 and Manufactures by 1.9 per cent to 263.2 when compared to June, 2976.

Index Numbers of Wholesale Prices in India (New Series)

(Base . 1961-62=100)

Year/Month	Cereals	Pulses	Food Articles	Industrial raw materials	Manufactures	General index (all commodities)	General index (all commodities) converted to old Base 1952-53 =100
1	2	3	4		6	7	8
1970 Average	202.1	243.9	203.3	193.6	151.7	179.2	224.2
1971 ,,	199.1	258.2	207.0	194.4	164 3	186 1	232.8
1972 ,,	220.7	315.2	230.6	192.1	174.3	200.7	251.1
1973 ,,	257 2	387.4	278 9	276.7	194.1	239.3	299.4
1974 ,,	354.7	493.4	351 8	332 1	247.4	303.9	380.2
1975 ,,	366.5	453.7	360 8	281.9	253.2	309 1	386.7
1975—							
July	376.7	428.3	361.1	273 5	252.1	309 2	386.8
August	370.9	433.2	364.6	281 0	252.2	311.2	389.3
September	360.9	442.5	363.0	268.5	253.0	309.5	387.2
October	341.5	435.0	362.0	262.4	253.2	308.3	385.7
November	323.3	432.7	349.1	260.2	253.0	303.2	379.3
December	306.5	411.8	328.4	255.6	253.4	294.4	368.3
1976—							
January	302.6	408.4	318.1	256.1	253.2	290.0	362.8
February	297.2	386.4	315.4	248.8	353.5	288.3	360.7
March	287.5	356.2	304.9	240.0	253.7	282.9	353.9
April	290.8	353 3	314.0	253.9	255.5	288.4	360.9
May	292.0	312.9	318.4	266.0	257.0	292.3	365.7
June	297.2	305.3	322.7	282.3	258.2	296.3	370,7
July	309.7	325.3	340.2	307.9	263 2	308.2	385.6

Source : Ministry of Labour, Govt. of India.

A Review of the Attitude and Employment Potentiality of the Commercial Banks of India

Asok Kumar Chakrabarti*

The promotion of employment through the diversified activities of commercial banks is not an old banking concept. Though classical economists heavily relied upon the cheap money policy, they hardly forgot the primary function of commercial banks as the guardian of the liquid resources of the community. Lord Keynes gave scanty recognition to the role of commercial banks in generating employment. He drew a vivid picture of the pathetic condition of Indian banking in his famous treatise "Indian Currency and Exchange". Only recently in India bold experiments are being carried on through increasing commercial banking activities to remove poverty for creating employment opportunities. In July 1969, the Government of India nationalised the biggest fourteen Indian commercial banks. In the same year after a lapse of forty years since the appointment of the Central Banking Enquiry Committee (1929-31) the Government of India appointed the Banking Commission (1969-72) under the chairmanship of R. G. Saraiya. Again, in the same year, the Committee of Experts on Unemployment (1969-72) was constituted under the chairmanship of Mr. B. Bhagati. According to this committee, the problem of unemployment in India is intimately linked with poverty. In 1971, Dandekar and Rath, in their book "Poverty in India', depicted an acute state of Indian poverty. So a war is to be waged by our commercial banks against poverty so that economic growth can be accelerated and unemployment effectively tackled. Some modern economists (e.g., Prof. M. L. Dantwala) have of, course, raised doubts as to whether and how far economic growth can be conducive to employment. Our commercial banks should, therefore, prefer and select those types of trades and industries which are not only conducive to economic growth but also labour intensive. Dr. V. K. R V. Rao has stressed the need for increasing the present rate of economic growth by increasing the volume of savings and investment The present low rate of savings (11.7% of NNP in 1972-73 accordings to Supplement to Reserve Bank Bulletins, 1972 & 1973) can be increased and effectively mobilised by more vigorous and extensive efforts of the commercial banks. Economic growth may be boosted through more liberal credit facilities. Dr. A. N. Agarwala has recently indicated that the total credit available in India is not enough to finance the desired economic expansion. In July 1976, the Government of India appointed another Banking Commission under the chairmanship of Mr. Manubhai Shah to study, inter alia, the working of our nationalised commercial banks. It will naturally examine why they have failed to play an effective role in reducing unemployment in India so long.

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The main role of the commercial banks as financial institutions lies in providing finance. But according to the available estimates, the proportion of bank credit to the available deposits is extremely inadequate in view of its increasing requirements. There has rather been a fall in credit deposit ratio. The desirability of the present tight-fisted credit policy (pursued since September 1975 according to the guidelines of the Tandon Study Group), in an atmosphere of credit planning which by itself is capable of maintaining credit discipline, may reasonable be questioned. Our capitalist sector which is highly organised exhibits the typical characteristics of a more or less developed economy. Cheap money policy might have been more appropriate for this sector. The Committee of Finance for the Private Sector (1954) suggested the setting up of a consortium of banks and underwriters for participating in taking up shares and debentures of the industrial firms. But this recommendation has not yet been implemented. Jute, coal, paper, aluminium, chemicals pharmaceuticals, engineering and cotton textile industries are complaining against credit squeeze. The prelimmery findings of the sub-committee appointed by the Basu-Mullick Committee show that the sickness of many jute mills is the consequence of an acute shortage of working capital. The revival of the sick industries may not be possible if restrictions imposed upon the availability of adequate funds from the commercial banks are liberalized. It has been admitted by the Reserve Bank of India Governor Sri K. R. Puri that high interest rates (the maximum lending rate being fixed at 16.5%) help the banking system cover up declining efficiency in cost control and recovery of outstanding. It is to be examined whether a proper ratio between interest rates paid on deposits and those charged upon the customers can be kept up.

Economists have reasonably raised doubts as to whether and how far enough bank finance can be shifted from low priority areas (of low employment potentiality) to high priority areas (of high employment potentiality). Therefore, the future of financing different projects belonging to the high priority areas largely depends on greater mobilisation of bank deposits. According to the available reports, the rate of increase of bank deposits is not high enough. It is not proportionate to the interest offered despite alleged unethical pactices adopted by certain commercial banks to allure depositors. Moreover, rising price level has already swamped much of the increase in bank deposits. As the growth of bank deposits is of profound economic importance, it is to be seen how and how far it can be expedited in order to increase employment opportunities. Much depends on the bankers' efficiency which has reportedly gone downhill. Inefficiency and corruption obstruct economic development which is highly necessary for the generation of employment. If customers' displeasure with their banks grows and if their disagreeable experiences multiply, the general employment prospects will be adversely affected. This undesirable aspect of Indian commercial banking has recently been noticed by many economists. Delays in clearing cheques in credit remittances, receiving payments, collecting and crediting outward bills, sanctioning alteration of credit limits, etc., have frequently been referred to.

The capacity of our commercial banks for direct lending to the priority sectors is inadequate. Huge bank money is being absorbed for other purposes. Big industries and businesses are taking away big slices of our limited bank fund. For procuring food and building buffer stocks huge bank money is kept apart. Moreover, piling up of large bank debts threatens and discourages them. It has been reported that as on last Friday of December 1964 a nationalised bank made a total demand for Rs. 387 lakhs in agriculture but succeeded in recovering only Rs. 181 lakhs (i.e., 46.8%). This low rate of recovery is not a new phenomenon in Indian commercial banking. It is a legacy from the days of social control. It is a common experience of our commercial banks that the repayment of loans granted to the priority sector is very low. It is quite natural that the sick industries will be the largest defaulters. It is gratifying to note that the Reserve Bank of India has of late (in August, 1976) issued instructions to all commercial banks to set up cells to monitor sickness in industry, identify the ailments and remedy them before the units become ill. But it is surprising that the bank loans to the sick industries have generally been subjected to compound rates of interest which have further worsened their condition and quickned their closure. Lack of adequate infra-structural facilities, the unsatisfactory evaluation of different projects by State promotional bodies and political pressures are serious constraints within which our commercial banks have to work in the priorities areas. It has now been appreciated by the banking authorites that their direct lending to the priority sectors would not meet the latter's requirements. Therefore, they have, of late, started channelling funds through different co-operative credit societies. This obviously conforms to the recommendations of the Banking Commission (1969-72) which suggested, inter alia, meshing commercial banks with rural co-operatives. How far this would solve the problem of credit in the priority sectors is a big question as the benefits from the co-operative movement have hardly reached the marginal (with less than one hectare) and small farmers (who own less than two hectares) who require bank credit most. A dominant feature of the operational holdings in India is the preponderance of marginal ones. A scheme of giving three year interest-free loan of forty rupees to marginal and small farmers has been introduced in order to enable them to be members of the co-operative societies. But landless labourers who constituted 26.3% of the working population in 1971 have unfortunately been left out of this scheme. Moreover, the co-operative societies are practically controlled by political leaders belonging to well-to-do classes. This is not a very helpful factor. Perhaps, out of fear of the possible wearing away of their controlling power over them, our central and co-operative banks and the prominent leaders of the co-operative movement have openly declared against the idea of financing of primary societies by commercial banks. The V. Sivaraman Committee has recently (in August 1976) pointed out that the rural poor in India requires at least Rs. 170 crores as consumption loans. The existing dichotomy between consumption and production loans is highly inconsistent. Production loans may be of little use to the rural folk if consumption loans are refused. It may ultimately hamper production. The commercial banks are, therefore, require to extend consumption loans to the rural people in consideration of the existing vast rural unemployment. The recently held World Employment

Conference has drawn our attention. We are now thinking more in terms of the views expressed by foreigners over the Indian unemployment problem. We find that even foreign experts consider our lending rates to be too high. High administrative expenses are no doubt one of its main causes. But very few bank administrators are found to possess the requisite aptitude for convincing the rural people regarding the possible benefits from bank services. A strong barrier of attitude surreptitiously stands between our poor farmers and comparatively well-to-do bank officiers. If the latter cannot introduce dynamism in this most vital sector of the economy, there is little possibility of the eradication of rural unemployment in India. Agriculture constitutes the kingpin of India's rural economy. That is why the State Bank of India has opened several Agricultural Development Branches in rural areas. Moreover, a prominent place has been accorded to the commercial banks in working out the central scheme of integrated rural development outlined in March 1976. Nineteen districts have already been selected for a pilot project to compile an inventory of local resources and devise plans to generate employment for the rural unemployed. Local financial agencies like commercial banks will naturally be assigned important tasks in this sphere. Green Revolution started about ten years back. Have the commercial banks played their due role to make it a success? A recent study (vide G. C. Mondal and M. G. Ghosh: Economics of the Green Revolution) has shown that Green Revolution has been able to increase employment in the village under study without creating any social tension. The commercial banks have therefore a special task of taking Green Revolution to the door steps of the villagers. The Comprehensive Area Development Projects were initiated with the purpose of providing employment to a greater number of rural people through the modernisation of agriculture. The stiff attitude shown by the Reserve Bank of India in allowing the nationalised commercial banks to advance credit for the Comprehensive Area Development Projects is, therefore, difficult to be made out. This is in sharp contrast to its liberal guidelines to the commercial banks for financing housing schemes for the poorer sections of the society. A study group appointed by the Reserve Bank of India is now examining the question of financing housing. The fact that even before the publication of its report the Reserve Bank of India set its guidelines shows its over anxiety for the rural masses. The All India Rural Credit Survey Committee (1951-54) revealed that rural areas required credit to the extent of Rs. 750 crores, and the major portion of the loans went to the bigger agriculturists. The All India Rural Credit Review Committee (1966-69) suggested, inter alia, for the extension of adequate credit for agriculture through commercial banks. But in 1973-74, the public sector banks reportedly advanced only Rs. 428 crores to them. In regard to the distribution of term loans larger holdings are still preferred to smaller ones. It is also a disappointing factor that the commercial banks still lay greater emphasis on solid security and worthiness of the borrowers. Landless and marginal farmers lack in them and fail to derive necessary benefits from the commercial banks. It is also a surprising fact that the policies of the commercial banks are still found to be urban oriented. Undoubtedly lack of proper organisational framework in rural areas is a major bottleneck crippling the rural people's capacity to use up commercial banking facilities. A recent survey (conducted by one of our nationalised banks) has brought to the limelight large scale eviction of sharecroppers after the enactment of the W. B. Land Reforms (Amendment) Act of 1973. It is therefore, futile to sustain only the conventional commercial banking attitude. If our commercial banks hesitate to come forward into newer spheres of action, the unemployment problem cannot be fought effectively. Eightytwo per cent of the work force in India live in rural areas (according to the 1971 census). The Agricultural Labour Enquiry (1950-51) estimated rural unemployment to be of only 2 8 millions. But it has been revealed by the 1972-73 survey of the National Sample Survey Organisation that, on the average, 6.8 millions remain unemployed in the rural areas every week. Having taken this tremendous magnitude of rural unemployment into account the Government has, of late, set up a few Regional Rural Banks and decided to establish a few more. The suggestion to this effect first came from the Banking Commission (1969-72) A working group (appointed in this Commission previously) had proposed 15% share to be raised from the local people. It is not known why this proposal was ultimately rejected by the Government. In August 1976, another working group was appointed by the Reserve Bank of India to identify the special factors impeding the flow of bank credit in the north eastern region. It was asked to give appropriate recommendations within a period of three months. The object, obviously, was to accelerate an all round development of commercial banking in that region. Some villages (particularly in Nagaland) are far off from the bank offices. It becomes very expensive for those villagers to obtain bank credit. Another problem arises with respect to corruption. A survey recently conducted by Dr. R. K. Dhawan of the Department of Public Administration of the Punjab University has shown the problem of corruption in the rural administration to have assumed significant proportions. It is therefore a big question whether and how far our public officials will be able to come up with the problems of rural credit and rural unemployment effectively. The poor illitarate villagers may find it extremely hard to cross the hurdle of official redtapism. Unsatisfactory performance of our nationalised commercial banks in respect of the provision of financial assistance to recently free bonded labour is frequently complained against. The Rural Credit Survey by the Reserve Bank of India has disclosed that in 1971-72 the loans granted by the commercial banks to the rural people did not exceed even 1%. In July 1975, the all India average of rural credit was only 36% It shows that the country has progressed a little since the publication of the Report of the Rural Banking Enquiry Committee (1959-50) which highly recommended the establishment of ordinary commercial banks as near as possible to rural areas. Rural banking, however, suffers from lack of trained technical personnel. Moreover, banking habit is conspicuous by its absence in the rural areas. There is little chance of the eradication of rural unemployment through the newly set up Regional Rural Banks having inadequate paid up capital of Rs 25 lakhs only. There is every possibility of their failure in their purpose if they continue to give greater importance to creditwothiness just like the co-operative societies with which they are being associated.

The Lead Bank Scheme was given a fair trial as early as December 1969. All the nationalised banks and some non-nationalised ones were asked to undertake surveys to find out the economic potentialities of the Community Development Blocks, and formulate as well as implement development programmes. The banks have now come to realise that the evaluation of development projects would have better suited other agencies like State Government Departments and promotional bodies. The Banking Commission (1969-72) also expressed grave doubts about the capability of the commercial banks to organise a comprehensive feasibility study for all development projects with their inadequate resources. Reports of the two study groups appointed by the Reserve Bank of India to study the working of the Lead Bank Scheme in Gujarat and Maharashtra have revealed that the scheme has progressed rather slowly in the matter of formulation and implementation of development programmes at the district levels.

The cost of commercial banking has tremendously increased due to the fast branch expansion. Demands for exorbitant rents are made by house owners. Suitable manpower has not yet developed to man the increasing number of these branches. The scarcity of expertise has grown to be very acute. The prospective small entrepreneurs allege wide differences in the qualities of banking services available at the head offices and the branches. The latter's dealings with the clients demonstrate colossal ignorance and indifference. There is so much scarcity of trained officers that at least one trained small scale finance officer cannot be provided for each branch. It has become almost impossible to convert the local branch into a financial friend, philosopher and guide of the rural community. It is regrettable to note that the growth of branch banking has become slower in West Bengal in comparison to that in the other industrial States of India. Manipur is a State very much lagging behind the schedule. The backward rural areas have not yet received the same attention (regarding branch expansion) as their urban and metropolitan brethren.

The Committee of Experts on unemployment (1969-73) has pointed out that the problem of unemployment is to be understood in the context of, inter alia, lack of sufficient opportunities for gainful self-employment. The Royal Commission of Agriculture (1926-28) also advocated self-employment in subsidiary rural occupations. But very small amount of credit is being advanced by our commercial banks for self-employment purposes. They are pursuing an over-critical set of criteria for selecting the schemes against which they can commit themselves. About 6 millions join the labour force every year and many of them try to embark upon self-employment ventures. But it is said that emphasis on technicalities by the commercial banks inflicts considerable harassment upon the new entrant. The argument put forward by the bankers is that they should not be expected to create entrepreneurship (but only to assist it). Lack of a sufficient number of sensible and bankable schemes is said to be the real impediment. The role of India's planning organisations is not at all satisfactory in this respect because they have failed to forward a sufficient number of viable schemes to the commercial banks for the latter's consideration. The absence of infra-structural facilities obviously holds up entrepreneurial activities but the commercial banks have the least responsibility for that. The creation of proper atmosphere favouring new investment opportunities is possible for only the Government (and local self-Government) which can build dams and bridges, construct roads and railways and thus improve transport and communications so that external economies may be created. Projects on irrigation and power also give rise to external economies which are highly necessary for increasing inducement to invest (vide Ally Young: "Increasing Returns and Economic Progress", Economic Journal, December 1928). The commercial banks should, however, lower their lending rates. The Reserve Bank of India is required to reconsider its monetary policy. The high lending rates eat away large portions of incomes of small entrepreneurs who already suffer from small market, non-availability of spare parts and raw materials of the required quality, shortage of power and fuel, etc. The lending pattern of the commercial banks has raised apprehension in the minds of prospective entrepreneurs. The banks however cannot be compelled to grant requisite loans to inexperienced entrepreneurs. But if they continue to demand margin money (ranging from 25% to 50%) and also insist upon the production of other securities (amounting to almost of 100% of the loan wanted), most of the prospective entrepreneurs will get disillusioned. The commercial banks have hardly showed any interest in implementing "additional employment schemes" of the Central Government. Ninety per cent of the seed money for each scheme had to be drawn from the commercial banks (the Government gave only 10%) who practically failed to play their due roles in this respect. Meeting the financial requirements of the larger firms is still found to get greater importance. It is learnt that even sound schemes have to be given up by many small entrepreneurs because of their inability to surmount financial difficulties Moreover, wide information hiatus prevails. Prospective entrepreneurs have unnecessarily to move from one officer to another until they can come to the right person. Adequate number of agencies are wanted for scattering information regarding the available banking services for self-employment seekers and to do away with unnecessary harassment and wastage of time and money on the part of prospective small entrepreneurs.

Enlarging employment by the commercial banks largely depends on their capacity to induce labour intensive small scale industries. The Central Employment Committee (May 1959) highly recommended the establishment of small scale industries. But the Thacker Committee has referred to obvious gaps in the credit policy of the commercial banks for small units. Lack of organisation is a major weakness of our handloom industry. Over ten millions have found jobs in this industry. But its co-operatives, as the Sivaram Committee on the Handloom Industry has pointed out, cannot expect to be funded by the Reserve Bank of India because they have not yet been able to come up to the norms set by it. Marketing of handloom production has come to be a great problem due to inadequate salesmanship. The weakness of the co-operative movement and lack of proper marketing facilities are largely nullifying whatever moderate active assistance this industry has so far been able to draw from the commercial banks. Persons making earnest efforts for the establishment of small scale industrial units are undoubtedly offered equipment finance by the commercial banks. But no financial help is offered for acquiring places of business. The prospective small entrepreneurs, therefore, fall back upon money lenders for acquiring the necessary fund for having their place of business with a view to availing themselves of the equipment finance offered by the commercial banks. They have also to resort to private money leaders when the commercial banks demand large margins. Very recently in August 1976 the Industrial Development Bank of India has done a good job in issuing instructions to the commercial banks to extend a number of incentives to small scale industrial units. The incentives include 100% refinance facilities in respect of loans to small scale units without any margin and a rebate of 1½% per annum in the interest rate charged on small scale units. Four lakh units of small scale industries give employment to fortyfive lakh persons in India. In near future during the Fifth Five Year Plan 1,69,000 more such units are proposed to be set up and they are expected to give employment to twenty lakhs more. The present stiff attitude of the commercial banks in regard is to 'collaterals offered by small units is not at all consistent with the latter's vast employment potentiality. The Banking Commission (1969-72) has stated that Indian commercial banks are found to prefer collaterals in the form of inventories to those in the forms of machinery, immovable property and guarantees. The small scale industrialists, however, find it extremely difficult to offer inventories as collaterals. Just five years back, the Thacker Committee suggested the extension of financial and other forms of assistance by the banking system to small entrepreneurs for creating five million jobs. The most important problem of our small scale industries relates to finance. Granting financial assistance to them on softer terms is to be regarded as a must. Lack of adequate number of trained personnel is another great obstacle. Therefore, it is natural that some loan applications will go unscrutinised or not properly scrutinised. The banking authorities are, therefore, sometimes reported to be unsympathetic to the small scale industries. Most of their small scale cells are understaffed and almost every officer is heavily burdenend with work. Lack of dynamic organisational leadership for executing large programmes of assisting small scale industries which are already bristled with many problems is found to prevail on a large scale. Electricity is of vital importance to small scale industries. But loans to State Electricity Boards have been made conditional to high rates of interest. Even many years ago, the Sapru Committee on Unemployment in the United Province (1935) suggested the stimulaation of small scale industries for absorbing an increasing number of educated unemployed. (There is no doubt that educated unemployed which has assumed alarming dimensions in recent years is a more serious evil than other types of unemployment. In June 1976 there were 4.34 million educated unemployed in India). But unfeelingly, only a small portion of the credit extended to the small scale sector is allocated for the educated unemployed. Educated unemployment is the crux of the unemployment problem as disgruntled educated young persons constitute the most sensitive section of the society. If our commercial banks cannot facilitate their diversion to suitable fields of employment the ills of our economy may be largely imputed to their faulty operations.

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Illiteracy and Development of Rural Economy

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It is well-known that four-fifths of the population in the developing agricultural economies still live in villages. Percentage of illiteracy among rural people is also much higher than that among urban people. The following paragraphs contain an endeavour to show how far socio-economic backwardness as displayed by income, farm size, distance from education centres and urban and marketing centres are responsible for high illiteracy of the rural folks.

Thirty six farm families belonging to six villages of West Bengal were randomly selected and covered by the method of personal investigation during the year April 1973 to March 1974 to collect pertinent data. These villages are : (1) Ambaula and (2) Natgram of Gaighata P. S., District 24 Parganas, (3) Nalupur and (4) Bhajanghat of Krishnaganj P.S., District Nadia, and Haripur and (6) Sibpur of Ratua P.S., District Malda. Gross annual income of these families from both farm and non-farm sources was estimated. Farms were categorised according to area under their cultivation during 1973-74. In considering distance of these villages from urban centres, only such centres serving as rural marketing centres, recording at least seventy five per cent of their male working populalation as non-agricultural, and satisfying. on the whole, the test of urbanisation as defined in the Census of India, 1971* are chosen. Literacy implies only ability to read and write. Distance of villages from the nearest primary schools was considered. In calculating percentage of illiteracy, total number of members in the families investigated including 0-4 age group is taken into account. Rank correlation co-efficients (r_r) between different variables under considerations—income, farm size, distance from education centre and distance from urban centre, on the one hand, and illiteracy among the villagers, on the other, were then computed. Relative extent of illiteracy among the different income groups and farm-size groups were also noted. The results of field investigation are given in section III. The next section is devoted to a comparison of illiteracy as between selected countries of the world as well as between different States of India.

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The distribution of the thirty six farm families investigated according to their operational area and the percentage of illiteracy among their members are given in table I.

Table I

Distribution of farm families according to operational size groups of holdings and illiteracy : 1943-74

Operational size group (Hect.)	No. of Farms	Family Members (Total)	Percentage of literates	Percentage of illiterates
0.01-1.00	4	23	29.65	70.35
1.01-2.00	11	90	38.82	61.18
2.01-3.00	9	71	51.64	48.36
3.01-4.00	5	76	41.68	58.32
4.01 and above	7	73	46.75	53.25
Total :	36	333	41.71	58.29

* Government of India, Census of India, 1971. Series I (Provisional population Totals). New Delhi : 1971, p. 3.

Of the total of 333 members in the thirty six farm families 58 29 percent are illiterate and 41.71 per cent are literate. Illiteracy is lower among large farms and higher among small farms—the range of illiteracy being 53.25 per cent to 70.35 per cent.

The position will be more clear from the figures of distribution of the families according to percentage of literates presented in table II.

Table II

Distribution of Family Farms by Percentage of Literates : 1973-74

Operational size groups (Hect.)	........Percentage of literate family members........ 0.001-20.00	20.01-40.00	40.01-60.00	60.01-80.00	80.01-100	Total
0.01-1.00	2	1	1	—	—	4
1.01-2.00	2	6	2	1	—	11
2.01-3.00	—	3	3	2	—	8
3.01-4.00	1	2	1	2	—	6
4.01 and above	1	3	1	1	1	7
Total	6	15	8	6	1	36

Of the thirty six farm families there are as many as twenty one families for which not more than forty per cent of the total members of each family are literates. There are only seven families showing sixty per cent or more of their members as literates. This indicates that for the majority of the families more than sixty per cent of their members are illiterate.

Rank correlation co-efficient between farm size and illiteracy has been found to be —0.17 indicating inverse relationship between the two. This is, however, not significant statistically.

r_r between gross annual income per farm and percentage of illiteracy has been found to be —0.35 once again indicating inverse relationship between the two, i.e., percentage of illiteracy falls as income rises. This inverse relationship has also found to be statistically significant at 5 per cent level.

Rank correlation co-efficient between distance of villages from education centres and percentage of illiteracy in the villages has been estimated to be +0.772 indicating high positive correlation between the two.

A statistically significant correlation (r_r) of +0.886 has also been observed between distance of the villages from urban centres and the percentage of illiteracy among their residents.

Table III shows the distribution of families according to distance in kilometres from education centres and urban centres.

Table III

Distribution of families according to their distance from education centres and urban centres 1973-74

Operational size groups (hect.)	Distance in Kilometres from				
	Education Centres		Urban Centres		
	0-1.00	1.01-2.00	0.01-4.00	4.01-8.00	8.01-12.00
0.01-1.00	2	2	2	2	—
1.04-2.00	11	—	—	8	3
2.01-3.00	9	—	—	8	1
3.01-4.00	5	—	—	4	1
4.01 & above	5	2	2	1	4
Total :	32	4	4	23	9

It appears that although most of the families are within the vicinity of primary schools yet majority of them are quite off from urban centre. This suggests that there is strong need for developing agricultural marketing centres and agro-goods.

Of the thirty six farmers under investigation thirteen satisfy the usual criteria of progressiveness while the rest do not. Correlation co-efficient (r_r) between farm size and percentage of illiteracy for the progressive and non-progressive farmers respectively has been found to be —0.071 and —0.206. r_r between gross annual income and percentage of illiteracy for progressive and non-progressive farmers respectively are —0.549 and —0.482. This indicates inverse relationship between the two pairs of variables. The correspondence between gross income and illiteracy is relatively higher for the progressive farmers than that for the non-progressive farmers. The reverse appear to be true in respect of correspondence between farm size and illiteracy. When subjected to Fishers' transformation, however, no real difference appears between the correlation of one set of variables, viz., farm size and illiteracy for progressive farmers and that for non-progressive farmers. Similar result is found with respect to correspondence between gross income and illiteracy for the two groups of farmers. On the whole, it appears still that progressiveness helps eradicating illiteracy.

It may be helpful in understanding the relative positions of the State of West Bengal and India vis-a-vis other countries of the world in respect of illiteracy, if relevant figures are collected here. In the year 1971, 74.37 percent of the total rural population of West Bengal was illiterate while the corresponding figures for India as a whole was 76.40 per cent. Percentage of illiteracy for the population as a whole was 66.95 and 70.66 respectively, for the State of West Bengal and India as a whole in the same year.[1] This is pitiable when compared with the level of illiteracy of below 5 per cent in such countries as Australia, Canada, U K. and U.S.A. The fact that expenditure on education in India from primary stage to the highest level is only about Rs. 15.00 per capita per annum or about 3 per cent of the G.N.P. while the corresponding figures for the U.S.A. of Rs. 2000.00 or 10 per cent of G.N.P. once again reveal the deplorable state of affairs in India in respect of literacy.[2]

Development of human capital is essential for all round uplift of an economy. Eradication of illiteracy and betterment of education standard among the mass of the non-urbanised inhabitants of the developing economies is indispensible for the development of their hitherto unutilized and underutilized natural resources. While attempts should be made in the short-run to reduce illiteracy through increase in the number of education centres and their even distribution all

(Continued on page 423)

State of Indian Agriculture : Some Highlights of Agricultural Census

G. Saibaba*

In the twenty-sixth year of the formation of our Republic we have in hand an All India Report on Agricultural Census. The Report of the Agricultural Census, which was conducted for the first time in the country, was presented to the Union Minister for Agriculture on December 24, 1975. Described as one of the biggest ventures in agricultural statistics ever undertaken in India, the Census involved over a lakh village level functionaries to collect data on the different characteristics of operational holdings in the country.

The report contains data on a number of operational holdings, tenure relationships, sizes, types of farming, farming practices, facilities available by way of irrigation and such other inputs and services. The Census will be of immense use for the theoreticians, planners, administrators and statesmen

(i) To evaluate the efficiency of the theoretical schemes put forward by leading agricultural economists in general, theoretical experts on Indian agriculture in particular.

(ii) To evaluate the efficiency of Indian farmers in allocating resources available to them among different production alternatives and to estimate production functions and marginal productivities for various agricultural inputs for different farms and farm sizes across different States in India. In turn, this will determine the degree of accuracy with which the efficiency of resource allocation has been made.

Further, the final evaluation of resource allocation will be useful for comparisons between "the computed marginal value products and the corresponding input prices over different dimensions". Such analysis of the present agriculture of India is particularly desirable for formula-

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ting future plans for agricultural vis-a-vis economic development of India. The Census will enable the planners and administrators to visualise what types of crops are grown at present under irrigated conditions: (i) in different sizes of holdings, (ii) whether the growth of commercial versus foodgrain crops bears any relationship to the size of holdings, and (iii) whether the differences in types of irrigation sources and combination thereof, supplementing each other, make any material impact on the intensity and pattern of cropping in various sizes of holdings. The data in respect of present practices and pattern in relation to farm sizes and inputs available will enable the authorities to formulate detailed programmes for agricultural development to achieve the twin objectives of Fifth Plan, viz., eradication of poverty and attainment of self-reliance. Finally for the statesmen the report will be useful (i) to understand the agrarian reforms and agricultural scene of the country which is exposed to such reforms. The findings nonetheless would help all of us to understand (ii) the major issues relating to the direction the agricultural economy of the country is taking, and (iii) the tasks of intervention at this hour that relate to all the unsolved questions of the Indian agriculture. The data provided in the Report would throw much light on the problems of agricultural planning for agricultural development and help in evolving integrated schemes as suggested by the Committee on Rural Credit Survey in 1951.

Outstanding Findings

The most outstanding finding of the Census is that small and marginal land holdings are predominant in the country. Secondly the medium and large holdings though forming just 11 per cent of the total holdings, account for more than half of the cultivated area. These findings reveal the sensational increase of both "fragmentation" and "concentration" of holdings in spite of untiring efforts by the States in recent years to prevent this trend. Thirdly, there are still large areas about 12.4 million hectares (a hectare is approximately equivalent to 2.5 acres) which are cultivable but not utilised. This highlights that more land is available for distribution among the landless. Fourthly, the number of wholly irrigated holdings remains small and irrigation facilities are very unevenly distributed among the various regions in the country. This underscores the efforts to be made in providing facilities in some regions. Fifthly, the number of holdings under tenancy is, contrary to popular belief, relatively small, i.e., 35 million holdings are of a size less than a hectare, which in current parlance are known as marginal holdings. This half of country consists of 9 per cent of operational holdings of the total cultivated area. On the other extreme, above 10 hectare holdings account for 4 per cent of the cultivated area. Finally, the Report revealed the relationship between the growth of commercial versus foodgrains crops, its bearing upon the size of holdings The report stated that large holdings cornered among them cultivation of pulses among the foodgrains and oil seeds and cotton in particular among cash crops.

Operational Holdings

According to the Report there are 70 5 million operational holdings in Indian agriculture operating over an aggregate area of 162 million hectares. Of these 70.5 million holdings of several sizes, 35 million or half of the number of operational holdings are of a size less than a hectare, which, in current parlance, are known as marginal holdings. This half of the country consists of 9 per cent operational holdings of the total cultivated area. 19 per cent of holdings are small (i e. 1 0 to 2.0 hectares) and they cover 12 per cent of the area. Semi-medium holdings (i.e. 2.0 to 4.0 hectares) constitute about 15 per cent of the total number and 19 per cent of the total area. On the other extreme, large holdings (above 10 hectares) account for 4 per cent of the holdings with over 30 per cent of the cultivated area. In absolute terms, 2.8 million holdings which are of 10 hectares and above account for an area of 50 million hectares. Uttar Pradesh has the largest number of operational holdings numbering 16 million or 22 per cent of the total and covering an area of 18 million hectares (11.2 per cent of the total area). We do not have comparable figures by which we could readily compare these to find out the changes that have taken place in regard to the concentration in "operation holdings" as distinct from "ownership holdings". Computing from 1953-54 N.S.S. Round of Survey, it was found that 50 per cent of all holdings with the smallest plots accounted for 10.5 per cent of cultivated area. In 1970-71 the Census Report reveals that 50 per cent of holdings, i.e., 35.75 operational holdings with less than a hectare accounted for 9 per cent of the cultivated area, which means there is now proportionately less of land in such holdings.

During 1953-54 to 1970-71 the cultivated area increased from 124 million hectares to 162 million hectares or from 310 million acres to 405 million acres. This is an increase by 31 per cent and an increase in number of operational holdings would be to the order of 40 per cent during the same period. The processes of agricultural scene that have been at work during the period are :

(i) more and more sub-divisions of holdings, and

(ii) selling out of plots of land by small farmers and thereby becoming more diminished in size.

This was also the period when intervention through large scale land reforms was on agenda. The first round of land reforms (land distribution) till 1970-71 had brought about a distribution of 1.27 million acres of land. The latest Agricultural Census throws a glimpse on this process having worked during the last two decades. More detailed probes are necessay to study this aspect.

Food Crops Cultivation

The Agricultural Census shows that foodgrains production which accounts for more than 70 per cent of the cropped area is mostly being made in marginal small and semi-medium holdings. The greater part of wheat cultivation was being done in these holdings, i.e., about 68 per cent of the total wheat cropped area originated in these holdings. Bulk of wheat area is in holdings which are 4 0 hectares and above in most of the States, except in Uttar Pradesh and Bihar where 70 and 60 per cent of the respective wheat areas are in holdings below 4.0 hectares.

Small and semi-medium holdings (1.0 to 4.0 hectares) account for the largest part of the area under rice cultivation both irrigated (43.6 per cent) and unirrigated (44.1 per cent). In Madhya Pradesh 64 per cent of the area under rice is in holdings above 4.0 hectares. In Uttar Pradesh, West Bengal, Tamil Nadu and Assam, 74-80 per cent of the rice area is in holdings less than 1 hectare constituting fifty per cent of the total number of operational holdings in the country. Rice cultivation in these holdings is less than one-fifth of the total area under rice cultivation. Rice is the dominant crop of rainfed agriculture in Eastern region but its yield in comparison to irrigated area is strikingly low.

About 7 million marginal and sub-marginal operational holdings engaged in cultivation of jowar and bajra constituting 72 per cent of the total operational holdings devoted to these crops. Holdings of 4 hectares and above account for 70 per cent of the area under jowar at all India level. In Rajasthan, which accounts for the largest area under bajra in the country, it is grown mostly in holdings of 10 hectares and above. Bulk of the area under maize (53 to 71 per cent) is in the holdings above 4 hectares in Madhya Pradesh, Punjab and Haryana. In contrast to this 75 and 60 per cent of the area under maize in Uttar Pradesh and Bihar respectively are in holdings below 4 hectares.

Coarse grains such as jowar and bajra are cultivated in wholly unirrigated holdings in Rajasthan, Gujarat, Maharashtra and adjoining areas in Madhya Pradesh and Karnataka.

Commercial Crops Cultivation

The bulk of cotton cultivation in the country is done in operational holdings of 4.0 hectares and above and these account for 77 per cent of the total area under cotton. Jute cultivation is largely in semi-medium, small and marginal holdings. Except in Uttar Pradesh and Bihar where 64 and 58 per cent respectively of the pulse crops areas are in holdings below 4 hectares, in all other States more than 60 per cent of the area is in holdings above 4 hectares. More than half of the area under sugarcane in Uttar Pradesh is in semi-medium (2 to 4 hectares) and medium holdings (4 to 10 hectares). In Gujarat which has the largest area under oil seeds in the country, four-fifths of the area is in holdings of 4 hectares and above. Thus the large holdings covered among them in cultivation of pulses, foodgrains and oil seeds and cotton in particular among the cash crops. Medium and large size holdings account for 63 per cent of the area under oilseeds. Above 4 hectare holdings account for 77 per cent of the total area under cotton. So here the Indian agricultural economy has not only preponderance of marginal, small and semi-medium holdings but the major crops of the country continue to be cultivated within the constraints of such holdings. On the other hand, certain commercial crops are cornered by the big holdings leaving more than 12 per cent of operational area uncultivated.

Irrigation Facilities

The Agricultural Census findings relating to irrigation by size of classes clearly show that except in Punjab, Haryana and Rajasthan the smaller and marginal holdings have a much larger share of irrigation, though the total irrigation does not exceed 21 per cent of the cultivated area, 8 per cent of the area being under wholly irrigated holdings. The States of Uttar Pradesh, Bihar, West Bengal, Andhra Pradesh, Tamilnadu, Punjab. Haryana and Rajasthan together account for 85 per cent of the wholly irrigated holdings in the country. Further, it is interesting to note that 77 per cent of the total area under canal irrigation in the country lies within these States. In Rajasthan 84 per cent of canal irrigated area and 62 per cent of the well irrigated area are in holdings above 4 hectares. About 47 per cent of the tube well irrigated area in Uttar Pradesh and 57 per cent of such area in Bihar are in holdings below 4 hectares, whereas 65 per cent in Punjab and 69 per cent in Haryana of the tube well irrigated area are in holdings above 4 hectares.

According to Census findings "the two groups, viz. (i) marginal and sub-marginal, and (ii) small and semi-medium holdings together make up 98 per cent of the wholly irrigated holdings in Uttar Pradesh, 97 per cent in West Bengal and Tamil Nadu, 95 per cent in Andhra Pradesh and 94 per cent in Bihar." Quite obviously large holdings (10 hectares and above) constitute a sizeable proportion in Punjab 19 per cent, Haryana 19 per cent and Rajasthan 29 per cent. It is quite interesting to note the small and medium holding bias of the State in course of its irrigation investment and on the other hand the findings clearly reveal that owners of big holdings generally have a much less incentive for such productive investments as sinking of wells and tube wells or tanks than their smaller counterparts. Thus a larger proportion of their area is left without 'private irrigation' than that of the relatively smaller holdings. Operators of these big holdings are more busy with trade and usury than with production.

The first Agricultural Census of the country once again underlined that these are some of the features of our agrarian economy. One does not know what are the official policy implications of these findings, except that there are continuous pronouncements on "Coping with the problem of the rural poor". With this agro-economic structure the Indian agriculture showed growth between 1952-53 and 1964-65 at the rate of 3.1 per cent but a growth that was followed by years of severe crisis. Again between 1967-68 and 1970-71, agriculture showed a growth rate of 4.1 per cent to be followed by three years of crisis.

Indian agriculture showed the potentialities for growth but at the same time the repeated crisis clearly showed where our weakness lay. Faced with enormous problem of the rural poor in India what was thought of was to incorporate a section of the "potentially viable" small farmers in process of growth while for the rest some increases in income through subsidiary occupations were being planned. The work of the S.F.D.A. and M.F.A.L. have revealed that without any integrated package plan these measures failed to make the slightest dent in the problems in hand. Since the proclamation of emergency and adoptation of point programme the problem of the rural poor is again being underscored but without much headway. Growing 'proletarianisation' in the rural economy, alongside growing area of subsistence farming in the over-all context of a slow rate of industrialization and urbanization is bringing ruin of magnitude which the existing development processes are unable to take care of. In fact, the social process of the country in the 26th year of the Republic seems to have come to a standstill in the absence of real coping with the challenges that are being posed. Thus this is the call of the hour if a big intervention in favour of masses of India's peasantry and the rural landless has to be made. The movement for separate cooperatives of the small and marginal peasants and agricultural labourers can be a new turning point in the country to-day. These separate cooperatives can also be the instrument for effective land redistribution alongside sowing the seeds of a new agricultural structure in India which is essential for changing the course of agrarian economy of the country.

(Continued from 416)

over the country through extension of audio-visual means of education and through similar other means, for a permanent and long-run solution of the problem, the rural families must be enabled to earn more and cross over the poverty level* once-for-all through reorganization and revitalization of farms and agro-industries and improvement in the economic infrastructures.

* Average annual per capita private consumption of the people of West Bengal, as a whole, in 1970-71 of Rs. 413.41 being much below the poverty line of Rs. 480 00—the poverty line calculated again on the basis of nearly about 50 percent of what the Expert Nutrition Committee recommended as the minimum requirement of the people, Government of West Bengal, Comprehensive Area Planning Board, 1973, pp., 20-21.

1. Op. cit, pp. 76-78.

2. Ministry of Education, Government of India, Report of the Education Commission, 1964-65, p. 393.

Changing Pattern of Land Utilization in Himachal Pradesh

G. D. Vashist*

Technological improvements over the years have brought about changes in the pattern of land-use in the state of Himachal Pradesh as well, like any other part of the country. The study of the land-use pattern would go a long way to help the policy-makers of this State in planning the proper utilization of this fast becoming most scarce resource, i e., land. The main objective of this study is, therefore, to critically analyze and quantify the various changes taking place in land-use pattern in Himachal.

DESIGN OF STUDY

The data were collected from secondary sources for this inquiry. The information was collected from a number of government publications and records kept by different departments for the years 1960-61 through 1971-72, i.e. twelve years. The entire period of study was split into three periods, the first, the third plan period (1961-62 through 1965-66), the second, the three annual plans period (1966-67 through 1968-69) and third, the first three years of the fourth plan (1969-70 through 1971-72). This period refers to as the 'present period' in this study. The year 1960-61 being the last year of the second five year plan and seasonally a normal year was used as a base-year in our analysis.

Time series data as such suffer seriously from irregular variations which make difficult to understand the trend. Annual averages were, therefore, worked out to eliminate the elements of irregular variations for the three periods under reference.

To quantify the magnitude of absolute changes, the indices were constructed with 1960-61 as the base whereas the relative positions of these absolute changes were examined by working out the percentages. These percentages were calculated with reference to the reporting area

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rather than the total geographical area as the non-reporting area was short of over 30 per cent in the State. The results are depicted in Appendix.

RESULTS AND DISCUSSIONS

I. Area under Forests

Himachal is rich in its forest wealth. Forests are a potential source of revenue to the State exchequer, as over one-fourth of the total revenue is generated from this source alone. About 38.5 per cent of the total geographical area is covered under forests in the State. The area under forest was 31.76% of the reporting area in the year 1960-61.

There has been an absolute increase in area under forests from 83.72 thousand hectares in the third plan periods to 123.06 thousaad hectares during the three annual plan periods and to 123.84 thousand hectares in the first three years of the fourth plan period. However, there is a discernible decrease in the percentage area over the decade from 1961-62 to 1971-72.

The percentage area under forests decreased over the decade from 23.75 during third plan period to 21.79 in 1969-70 to 1971-72. The obvious reason of this decrease in area under forest is the increasing pressure of population on land for crop cultivation. Kangra district with an area of 254.40 thousand hectares tops in area under forests in the State.

Mandi with an area of 148.14 thousand hectares under forests and Chamba with 107.87 thousand hectares forest area rank second and third respectively in the State.

II. Barren and Unculturable Waste Land put to Non-agricultural Uses

This type of land is not available for cultivation as it mostly consists of mountains and deserts, or land covered by buildings, roads, railways and canals, etc. Barren and unculturable waste registered an increase in area over the decade. The area under such land was 36 thousand hectares (or 2.23% of R.A.S.) in 1960-61 and 177 thousand hectares (or 3.99% of R.A.S.) in 1971-72. Similarly, the land put to non-agricultural uses went up during the same period. The area put to non-agricultural purposes was 62 thousand hectares (or 3.83% of R.A.R.) in 1960-61 and it rose to 177 thousand hectares (or 6.04% of R.A.S.), an increase of 115 thousand hectares or by 285.48%

in 1971-72. This shift is mainly due to the increase in area under roads, railways and the built-up area, etc, under the increasing pressure of population.

III. Culturable Waste, Permanent Pastures and other Grazing Land, Land under Miscellaneous Tree Crops and Groves

The area under culturable waste rose from 2 89% in 1900-61 to 5 5% in 1971-72 of the reporting area for land utilization.

As against this, the area under permanent pastures and other grazing land increased just marginally over the decade, whereas the land under miscellaneous crops and groves not included in area sown actually shrank from 1.98 per cent of the reporting area for land utilization in 1960-61 to 1.40 up to 1971-72. This shift here again may be due to the area under crop farming.

IV. Fallow Land

The fallow land in the Himachal Pradesh registered an increase from 18 thousand hectares in 1960-61 to 61 thousand hectares 1971-72—an increase of 338.89 per cent This happened mainly because a large portion of the land in the State being unirrigated the intensity of cropping could not be increased consistently. The real doorstep of need is, therefore, to step up the irrigational facilities in the Pradesh.

V. Net Area Sown

The net area sown in the State increased significantly over the decade. It increased from 273 thousand hectares in 1960-61 to 546 thousand hectares up to 1971-72. The net area sown thus registered a 200 per cent absolute increase. This shift occurred as a result of the decrease in area under the forest and land under miscellaneous tree crops and groves, as well as a result of the extension in irrigational facilities in the State. Measured in relative terms the net area sown was 16 81 per cent and 18.62 per cent of the reporting area in 1960-61 and 1971-72 respectively.

VI. Area Sown more than Once

This implies such an area where two or more crops could be taken during a year. This has been made possible by the modern technology.

Such area experienced an absolute increase of 232.05 per cent during the decade. Viewed relatively, it was 36.36 per cent in 1960-61 and 39.87 per cent of the total cropped area in the present period. This is not a sizeable increase as the irrigational facilities are not adequate to bring more area under double and miltiple cropping at present. Presently, the total irrigated area is 90.32 thousand hectares and is just 9.94 per cent of the total cropping area. The percentage increase in the total irrigated area was just marginal from 9% of the total cropped area in 1960-61 to 9.94 per cent of the total cropped area in the present period. Likewise, the total cropped area increased from 429 thousand hectares in 1960-61 to 908 thousand hectares in the present period.

VII. Total Cropped area

As stated earlier, the total cropped area expanded from 429 thousand hectares in 1960-61 to 908 thousand hectares in 1971-72. The increase is of the order of 479 thousand hectares or of 211.66 per cent over decade. This increase occurred due to (i) the increase in area sown more than once, i.e. 206 thousand hectares, and (ii) 273 thousand hectares as a result of the extension in the net area sown.

VIII. Cropping Intensity

The cropping intensity is sometimes called the vertical size of the operational holding and is calculated by dividing the total cropped area by net areas sown and expressed in percentage. The intensity of cropping was 157.14 per cent in 1960-61 and it improved by 12.16% or to 166.30% at the present level. This is not an encouraging improvement, indeed. This could be further increased if the irrigational facilities were strengthened in the State.

IX. Extent of Irrigational Facilities in the State

As observed earlier, the total irrigated area expanded from 9% of the T.C.A. in 1960-61 to 9.94% at present. Similarly, the total irrigated cropped area increased from 67.32 thousand hectares in 1960-61 to 156.59 thousand hectares at present period—an increase of 232.6%.

Viewed in relative terms, the total irrigated cropped area registered an increase of 1.56% of the total cropped area. The extension in total irrigated cropped area was 90.23 thousand hectares due to the total irrigated area and 66.36 thousand hectares due to the area receiving irrigational facilities throughout the year.

Total irrigated area as well as the total irrigated cropped area registered an increase of 51.62 thousand hectares (or 233.70%) and 89.27 thousand hectares respectively over the decade.

Conclusion

It is, indeed, disconcerting to note that the area under forests has shown a declining trend over the past decade though they alone generate one-fourth of the total revenue of the State. This calls for immediate attention of the Government to take steps to stop reckless deforestation and bring more area under forest.

Net area sown has registered a significant rise over the decade. This was 18.62 per cent of the reporting area in 1971-72.

There is hardly any scope to increase this area further unless improvements in irrigation facilities are brought about on a massive scale. Again, as a consequence of the weak irrigational facilities the area sown more than once has increased just marginally, i.e., by 3.51 per cent over the decade and the cropping intensity stood at 166.3 per cent. The moral is simple. The major constraint in the progress of our crop-farming enterprise is the lack of irrigational facilities throughout the year. Provision of irrigation will, therefore, lead the state speedily towards self-sufficiency.

APPENDIX

Land Utilisation Pattern in Himachal Pradesh (1960-61 to 1971-72)

Periods	Annual Averages			
Particulars	1960-61 to 1965-66	1961-62 to 1965-66	1966-67 to 1968-69	1969-70 to 1971-72
(1) Forest	516.00	432.00	635.00	639.00
	100	83.72	123.06	123.84
	31.75	23.75	21.81	21.79
(2) Barren and unculturable Waste	36.00	32·00	117.00	117.00
	100.00	88.89	325.00	325.00
	2.23	1.76	4.02	3.99
(3) Land put to Non-agril. uses	62,00	63.00	188.00	170.00
	100.00	101.61	303.23	285.48
	3.89	3.46	6.46	6.04
(4) Culturable Waste	47.00	46.00	156.00	156.00
	100.00	97.87	331.91	348.94
	2.89	2.53	5.36	5.59

Periods	Annual Averages			
Particulars	1960-61 to 1965-66	1961-62 to 1965-66	1966-67 to 1968-69	1969-70 to 1971-72
(5) Permanent	640.00	920.00	1154 00	1187.00
Pastures and other	100.00	143.75	180.31	185.47
grazing lands	39.38	50.58	39.64	40.48
(6) Land under misc.	32.00	32.00	52 00	41.00
tree crops and	100.00	100.00	162 50	128.13
groves not included	1.98	1.76	1,79	1.40
in area sown				
(7) Current and other	18.00	17 00	65.00	61.00
fallow lands	100.00	94.44	161.11	338.89
	1.12	0.93	2.23	2.08
(8) Net area sown	273.00	277.00	544.00	546.00
	100.00	101.47	199.27	200 00
	16.81	15.23	18 69	18.62
(9) Area sown	156.00	166.00	339.00	362 00
more than	100.00	106.41	217 31	233.05
once	36.36	37.47	38.39	39.87
(10) Total Cropped	429.00	443.00	883.00	908.00
area	100 00	103 26	205 83	211 66
(11) Cropping intensity				
$100\frac{\text{Total cropped area}}{\text{Net area sown}}$	157.14	159.93	162.32	166.30
(12) Total irrigated	38.61	39 35	90.20	90.23
area	100.00	100.92	233.62	233.70
	9.00	8 88	10.22	9.94
(13) Total irrigated	67.32	67.53	151.49	156.59
cropped area	100.00	100.21	225.03	232.61
	15.69	15.24	17.16	17.25
(14) Area receiving	28.71	28.17	61.10	66.36
irrigational facilities	100.00	98.18	212.82	231.17
throughout the year	6.69	6.36	6.92	7.31
(for more than one				
crop)				

Talking of Tourism

N. S. Lingayatwani*

Meaning of tourism differs from man to man. In common sense it is closely related to travel. The aim of travelling renders it meaningful. Tourism involves a visit to a place whether within the country or abroad. The travel may have an objective or purpose of entertainment, health as a fortune or for passing of the leisure time and may help in enjoyment, improving of knowledge, gaining personal experience at first hand. The persons travelling with such aims may be called tourists where those travelling with other aims are not, i.e., with a view to taking up some employment or in any involvement through which remuneration is earned or to establishing residence or temporarily visiting for less than twentyfour hours. While persons travelling within the country are known as local tourists, those visiting from foreign countries are called foreign tourists.

Tourism plays a vital role in the economic and social life of the local communities since by the tourist's moving from place to place, many sections of the society benefit including the owners of hotels and restaurants, travel agencies, photographers, taxi-drivers, pan-shops, hair-dressers, laundries, local craftsmen. Thus tourist industry is an important part of a nation's economy, if it is developed on scientific lines. Tourism can be a source of earning of foreign exchange. According to the latest figures available, India has been able to earn Rs. 67.5 crores of foreign exchange from this industry. It is only this industry that earns the maximum foreign exchange and without much investment. Tourism being a labour-oriented industry is a source of employment and can offer employment for a number of skilled and unskilled countrymen. Thus tourism can help in solving employment problem and promote national prosperity. With the development of tourist industry a better image of the country can be increased in the eyes of the world which can help in promoting other activities of economic and social development. Tourism helps in the learning of the culture and history written in superb stones and marbles thousands of years ago. India has always attracted innumerable tourists from all the lands of the world to its art, architecture, monuments, paintings, temples, mosques, great places, beautiful sculptures and memorials of the oldest civilization. Tourism is an instrument of achieving an equitable balance between major industrial areas and the rest of the country. Many areas are neglected by industrial society as they are not suitable for industrial development, but tourism enables the wealth earned in one part to be transferred to other parts. It is a method of transferring wealth from richer country to the poorer ones. Tourism helps in growth of knowledge, experience and maturity which is the major aim of the society and social development of a country. It is also used as recreation, and entertainment and concerns human health. The other advantage of tourism is its multiplier effect on the Indian economy being 3.2 at its lowest and 3.6 as its highest.

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* New Delhi.

Although the Government of India is taking much interest in its promotional activities it lags behind in many respects comparing to affluent countries. Tourism has been accepted by the affluent countries as an important factor for social and economic development and its study has been introduced in formal education. The facilities are offered to the students, employees, workers by their respective authorities. Thus tourism has been made omniportant factor of routine life in developed countries.

Every country is aiming at its development in every spere of life. The policies of present-day government are towards prosperity and improving its own image in the world. Of all industries tourism stands at better position in playing its role in the country's development. Tourism in India stands in lower position campared to affluent countries. All the past glory of tourism has resulted into nothing worth the name and we have still to walk down miles together to achieve something in the field of tourism. Our Government has taken necessary steps to make tourism attractive and many promotional activities are undertaken to attract more international tourists. In this direction the government has already proposed the sum of Rs. 78 crores for expansion and promotion of tourism during the Fifth Five Year Plan.

One thing is to be brought to the notice that the facilities that are offered to the countrymen are limited and only a handful of people avail of the opportunity to travel. Tourism in India is in infancy. With the increasing importance tourism has been recognised as apart of life and mass need and it should grow more faster than other industry. The fiscal incentives and necessary support should be given by the Government to this industry as it generates maximum foreign exchange. Therefore the Government should go for tourist industry rather than other export industries as expenditure on travels is increasing faster than expenditure on other commodities.

The following statistical information is gathered from the disembarkation cards that are filled in by the foreign tourists at the time of entrance. According to the statistical report of the Ministry of Tourism 1974, the important features are as follows :

The number of tourists has increased from 409,895 in the year 1973 to 423161 in 1974. This has shown an increase of 3.2 per cent. Of these tourists (423161), there were 274636 males (64.9%) and 142654 females (33.7%). The sexwise information in respect of the remaining 5871 tourism was not recorded. The average arrival of the tourists in the country is 1159 per day. As regards the mode of arrival, 362687 tourists (85.7%) arrived by air, 25358 (6.0%) by sea and 35116 (8.3%) by land roads. 238507 tourists (56.4%) have arrived during the winter months (January-March and October-December) and 184654 tourists (43.6%) arrived during summer months (April-September).

The average period of the stay of the tourists was 25.3 days in 1973-74. The average period of tourists from South East Asia is maximum, 40.6 days, followed by North America 24.7 days and East Asia 12.3 days.

In the country-wise distribution of the tourists U.K. tops the list with 62843 tourists (14.8%), followed by U.S.A. with 57822 tourists (13.7%). A large number of tourists came from West Germany 29194 (6.9%), Sri Lanka 28176 (6.6%), France 26992 (6.4%), Malasia 18413 (4.3%), Japan 17537 (4 1%), Australia 14757 (3.5%), Italy 13862 (3.3%) and Canada 11927 (2.8%).

142328 tourists (33.6%) disembarked at Delhi, 137942 tourists (32.6%) at Bombay, 36159 tourists (8.5%) at Madras, 27322 tourists (6.5%) at Calcutta and remaining 79410 tourists (18.8%) entered India through various other parts of the country.

Within the age-group of 31-50 years, 167309 tourists (39.5%) arrived in the country and this age group was dominating among the tourists. 141278 tourists (33.4%) in age-group of 17-30 years, and 83424 tourists (19 7%) in age group of 50 years and above arrived. Whereas 27864 tourists (6.6%) were children between 3 and 16 years. The children below three years age were not covered.

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- Restructuring of Banks in India : Panel's Approach
- Level of Living of Agricultural Labour in Bihar : Case Study

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Sd/ M. ROY
Manager,
Economic Affairs

15 September 1976

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"It's past ten-o-clock Books in their hands, mouths laughing, boys on way to school swarm over the streets The old men come out one by one—bellies glistening with oil, gamchhas on their shoulders—and stop before the opium shop for the gossip and the laudanum. The vegetable-sellers are going back from the market, their sacks and baskets pleasingly empty and light Calcutta town is a roaring place—with the rattle of carriages, the warning cries of the coachmen, the rumble of the ponderous Wellers and the stately Normandies Verily, it's nigh impossible to walk along a street with ease or cross one without danger to limb or even life!"

•This was how the great 19th century babu, that prince of dandies, Kaliprasanna Sinha, described the Calcutta of the age of horses But isn't it true also of today? It is as "Impossible to walk along a street with ease" in this eighth decade of the 20th century as a hundred years ago Only the tube rail can unclog our streets. And we are working on that right now! It is a venture in which all are contributing equally, the man on the street, as much as we below it, some by being patient, others by being speedy.

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Contents

Editorial

437 Oil Price and World Peace

439 Review

Articles

R. R. Barthwal and K. N. S. Nair
441 Development, Intensity of Crimes and Size of States in India

Vasant Desai
448 Restructuring of Banks in India : Panel's Approach

Mohammad Anwar Alam
454 Level of Living of Agricultural Labour in Bihar Case Study

D. L. Narayana and K. Narasimhulu
463 Regional Variations in Andhra Pradesh

Feature

472 Prices and Employment Trends in India

ECONOMIC AFFAIRS

Volume 21 December 1976 No. 12

Oil Price and World Peace

Since the last Arab-Israel war the oil-rich Arab countries have been using oil as an economic nuclear weapon against the rest of the world by manipulating oil prices and playing oil diplomacy. They raised the crude oil price per barrel by 128 per cent in January 1973 from $ 5.12 to $ 11.65. Overnight these countries became rich throwing others in a mess and slowing down their growth rates. Virtually the reserve currencies found their all roads to the Organization of Petroleum Exporting countries. So magical was the reaction of oil price manipulation that 11 out of 12 OPEC earned $ 85 billion in 1973 against $ 22.7 billion in the previous year. This resulted in 'imported inflation' which hard hit the developing countries who have little to sell to Arab countries but have to buy many items in world market, irrespective of prices, like oil, fuel and fertiliser.

The initial success of making the world economy toss at pleasure made the Arab countries so bold that they have now become fanatic in up-valuing the oil prices from time to time. They have a poor plea in that a rise in oil price gives rise to a greater rise in their import prices. A fun indeed ! For by creating a cost-price spiral they themselves blame the import-prices as the cause of the rise in oil price. This is however the indication of what awaits this destructive game of the Arab countries, But this is a different matter. What amazes is the behaviour of the rest of the world. The world seems not progressing toward 'united nations' but divided nations. Had it not been so the oil-importing countries would not have looked for self-interest begging, this way or that, the little favour of the OPEC and swallowed with contentment the immoral charity measures like oil facility, recycling, easy repayabilities and the like.

The Arab countries are least inclined to refrain from this sport of spoiling the world economy as is evident from their proposed another round of price rise by some 10 per cent to 15 per cent. It goes without saying that this rise will give another jolt to the world economy at the very time when it is just recovering from recession. One estimate shows that a 12 per cent rise in oil price will add

$ 25,000* million to the annual oil import bill of the developed western countries. Another estimate shows a 10 per cent rise will lead to an average 3 per cent increase in oil import bills within 18 months. The rise will further hard hit the less developed countries whose current account deficit is well above $ 33 billion. On the other side, OPEC will have a surplus of $ 50 billion in 1977.

The world should be induced to have a second and serious look at the dirty sport of the Arab countries which is increasingly adding speed to world inflation cycling into deep recession affecting growth and threatening revival. It is their sport which has demoralized the effort of world unity toward united growth, created a sense of uncertainty in the plans and programs and in perspective plannings of the developing countries, developed readiness among some developed countries to drive to protectionism whipping up narrow national interests, stimulated anarchy in export prices of oil-importing countries and, last but not least in importance, made rich the uncontrolled Euro-currency market, now fed mostly by the foreign currency income of the OPEC, which helped to pull down the Bretton Wood system.

In the name of 'internal affairs' and 'sovereignty' if the Arab countries are allowed to continue to play with oil price overlooking the world social and economic interests, deliberately making irreparable harm to other countries, the latter have every moral and economic right to take united action for making them understand that some strategic natural resources are for rational international uses, no matter who possesses them.

ANOUNCEMENT

The next issue of the Economic Affairs will come out on the 15th February as its 22nd Annual Number. The price of a single copy will be Rs. 5.00.

Sd./ M. Roy
Manager

Review

Monetary and International Economics, K. P. M. Sundharam.

Basic Economics, I. C. Dhingra and V. K. Garg.

(Sultan Chand & Sons, New Delhi, Prices Rs 15 00 and Rs. 12.50, respectively).

Divided into five parts Monetary and International Economics presents monetary economics, theory of income and employment, banking and financial institutions, international trade and foreign exchange, and Indian currency and banking in historical perspective covering almost all the recent developments in the fields. The discussion is lucid.

The Basic Economics covers the major subjects in micro economics from the point of use of undergraduate students. Some advanced studies have also been included. The book will be of benefit for those for whom it is primarily intended.

Indian Public Finance and Financial Administration, K. P. M. Sundharam and E. N. Sundharam.

Foreign Exchange : Principles and Practice, K. K. Andley.

Micro Economics, K. P. M. Sundharam and E. N. Sundharam.

(Sultan Chand & Sons, New Delhi, Prices Rs. 14.00, Rs. 16.00 and Rs. 15 00 respectively).

Part I of Indian Public Finance and Financial Administration dwells on the theoretical foundation of public finance and Part II the public finance and administration of India. The work has become attractive by its useful discussion on Indian financial administration. The detailed discussion of taxation will be beneficial for the persons of affairs.

The author of Foreign Exchange : Principles and Practice claims that the book covers the courses for the CAIIB examination and Degree examinations in the subject of various Indian Universities. He has creditably laboured for them. The topics have been arranged and explained systematically with immense simplicity.

Intended for undergraduate students Micro Economics discusses almost all the standard topics on micro economics in a manner easily graspable by the preliminary students in economics.

Basic Statistics for Economics, S. P. Gupta.

Basic Mathematics, B. C. Mehta and G. M. K. Madnani.

(Sultan Chand & Sons, New Delhi, Prices Rs. 16.00 and Rs. 12.50 respectively).

"Lucidity of style and simplicity of expression" were the twin objective of the author of Basic Statistics for Economics. This has been largely achieved which is not a small matter for a subject like Statistics. Undergraduate students will find the book useful.

Mathematical training is now essential for understanding modern economics. There are a number of book on mathematics for students of economics. Basic Mathematics by its merit can find place among the bests in the field. The incorporation of the art of application of mathematics in economic problems has enhanced the value of the book.

ON OIL PRICE

The world's import bill for OPEC oil this year is 125 billion dollars. OPEC's balance of payments surplus—the mirror image of the balance of payments deficit of the rest of the world—will be about 45 billion dollars in 1976.

A ten per cent price increase would add more than 12 billion dollars annually to the global energy import bill. And the effect will be to transfer additional resources to OPEC, reduce the import capacity of oil importing countries, add to the cost of the energy component of all we consume and the increase in world-wide inflationary pressures.

These effects would not be evenly felt. Weaker economies the world over would be the most seriously affected. And the hardest hit would be those who can least afford it—the poorest among the developing countries, the weaker of the industrial democracies.

—Rogers

Development, Intensity of Crimes and Size of States in India

R. R. Barthwal* and K. N. S. Nair*

1. The Objective

A comparison of the degree of development among the states of Indian Union reveals wide disparities Considering per capita income as a conventional measure of the degree of development, we find smaller states like Punjab and Haryana have considerably advanced as compared to larger states like Uttar Pradesh and Bihar. Thus there is an indication of the inverse relationship between size of the state and the degree of development. The objective of this paper is to verify this relationship statistically. Specifically, the hypothesis to be tested is that in Indian context the size of the state has negative bearing on the degree of development. As a corollary, we will also establish the relationship between size of the state and the intensity of crime. For this purpose we postulate the hypothesis that larger the state, poorer it is, and hence greater is the intensity of crime within it. Poverty is assumed to be an important determinant of crime in postulating this hypothesis.

2. Relevance of State Size : Theoretical Basis and Specification of Models

To bring in the relevance of the size of state as a determinant of the intensity of crime, we follow the standard theory of the laws of returns to scale. In the context of a plant or firm this theory says that in general there will be increasing returns to scale in the initial stage, followed by the stage of constant returns and eventually by the stage of decreasing returns as size of the plant or firm increases. In other words, the relationship between average product and size of the plant, measured suitably, is seen in the form of inverted U. A number of techno-economic as well as managerial factors have been identified for this kind of relationship

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* Department of Humanities and Social Sciences, IIT/Kanpur,

by the economists (Robinson (1931) ; Bain (1959) ; Johnson (1960)). To extend this theory at macro level we assume the state as a composite decision making and production unit. The output of this unit is 'development of the state' and maintenance of the law and order For simplicity we may consider these two outputs separately. The inputs for these outputs are the people, land, other natural resources, stock of capital and administrative machinery of the state. Among these inputs the size of the state is represented by the population or area of the land covering the state. The outputs and inputs are linked together through a production function. In this production function the presence of some fixed factor may be assumed to give us the familiar stages of the returns to scale. Consider, for example, state administration as a fixed factor, i.e., a critical minimum administrative machinery is needed to run the state whether it is small or large. A small state, say of the size of Manipur or Tripura, having a few economic activities, may not be able to raise enough resources even to meet the current expenditure on state administration. Moreover the services of the administration may not be utilized fully. Suppose size of the state is enlarged, the expenditure on administration being constant, then it would be plausible to think of an increase in the economic activities in the state resulting in generation of surplus resources for development of the state and at the same time increased utilization of the administrative services. The indivisibilities associated with the state administration may be viewed as a factor for increasing returns to scale (i.e., high rate of development) in the initial stage. When size becomes too large, say as in the case of Uttar Pradesh, such indivisibilities do not exist. Contrary, the stage of diminshing returns (i.e., slow growth) sets in due to administrative malfuncticning or loose coordination, and diversion of resources from development activities towards administration. The process of setting in the stage of diminishing returns as size of state increases will be accelerated further by the presence of some other fixed factors like availability of natural resources, along with the administrative malfunctioning. In the situation of variability of all factors the shape of the production function giving the returns to scale cannot be envisaged on a priori reasoning. It requires empirical investigations.

The proposition postulated in the above description is to be verified empirically. For this we may specify the following heuristic models :

$$Z=a_0+a_1x_1+a_2x_2+a_3x_3+a_4x_4 \qquad (1)$$

$$\log(Z)=b_0+b_1\log(x_1)+b_2\log(x_2)+b_3\log(x_3)+b_4\log(x_4) \qquad (2)$$

Where Z is per capita income representing the degree of development ; X_1 is population representing the size of the state ; X_2 is irrigated area of the state ; X_3 is fertilizer consumption ; and X_4 is consumption of electricity representing the degree of industrialization in the state. The choice of these explanatory variables is obvious, the emphasis is being given on industrialization and better agricultural situation for the development of the state.

If other variables except size of the state (X_1) are assumed to be constant, then simpler models may be specified as :

$$Z=a_0+a_1\,x_1 \qquad (3)$$

$$Z=a_0+a_1x_1+a_2x \qquad (4)$$

In fact, it is not possible to keep other variables constant since they are not in the control of anybody. Equations (3) and (4) may, therefore, be subjected to the specification bias (Rao & Miller, 1972).

So far we were mainly concerned with the development aspect of the state administration. Another important, in fact primary, function of the state administration is maintenance of the law and order situation in the society. This includes a check on all kinds of crimes like violence, robbery, murder and so on. If the state is too big a huge administrative machinery is needed for this purpose. Still there may not be any effective control and, therefore, the intensity of crime may go up with the size of the state. The data released by the Ministry of Home Affairs are showing this trend in India (see Reports for various years). Why this happens ? We have argued earlier that in Indian context larger states are poorer, so one may consider poverty as main determinants of the crime. For other determinants one may list illiteracy, high degree of urbanization, etc. Higher the illiteracy higher may be the intensity of crime, other things remaining same, and so is likely the situation with urbanization.[1] To show the statistical significance of these major determinants of crime, we may take the following equations for estimation :

$$C=a_0+a_1x_1+b_1Y_1+b_2Y_2 \qquad (5)$$

where C represents the crime intensity ; X_1 is population representing size of the state ; Y_1 represents literacy index ; and Y_2 the degree of urbanization.

In place of X_1, i.e., population, we may use total area (A) of the state as a measure of size, then the above equation would be

$$C=a_0+a_1A+b_1Y_1+b_2Y_2 \qquad (6)$$

If Y_1 and Y_2 are not significant factors of crime, then we simply write $C=a_0+a_1x_1$ and $C=a_0+a_1A$ for empirical verification.

3. The Data and Empirical Results

The data for the study are taken from the published sources mainly India 1975 : A Reference Annual[2], and Statistical Outline of India 1975[3] : The Year 1971-72 was found as the latest cross-section of time for which we could get consistent data series pertaining to the major states. We have excluded the mini-Indian states like Manipur, Tripura, etc. and Union Territories from the analysis because of paucity and/or inconsistent data about them. The relevant data series are given in Tables 1 and 2. With data the following estimates of the equations specified in Section 2 were obtained.

Variables : Z=Per capita income of state 1971 ; X_1=Population crores, 1971 ; X_2=Irrigated area as percentage of total cropped area, 1969-70 ; X_3=Fertilizer consumption per hectare of cropped area, Kg (1972) ; X_4=Consumption per hectare of cropped area, Kg (1972) ; X_4= Consumption of electricity KWH per capita 1972-73).

1. $$Z=384.22121-13.50668X_1+3.24555X_2+0.4372X_3+2.27328X_4$$
$$\qquad\qquad (-1.37) \qquad (1.38) \qquad (0.14) \qquad (3.77)$$
$$R^2=0.729 \; ; \; F=10\ 6$$

2. $$\text{Log } Z=5.03210-0.0906 \text{ Log } X_1+0.04753 \log X_2+0.04287 \log X_3$$
$$\qquad (-1.85) \qquad (0.52) \qquad (0.46)$$
$$+0.2785 \log X_4$$
$$(2.70)$$

$$\bar{R}^2=0.55 \; ; \; F=5.18$$

(Note : Figures in brackets are 't' values).

Considering the poor quality of data and multi-dimensional aspect of development, we may take a higher level of significance, say, 10% for these reggression equations. At this level, the regression co-efficients of X_1, X_2 and X_4 are significant with 12 degrees of freedom in equation 1. For X_1 we have negative coefficients but others are having positive coefficients. This shows that in India, the degree of development (z) is a negative function of the size of state (x_1), and positive function of irrigated area of the state (X_2), and consumption of electricity by the state (X_4). Fertilizer consumption (X_3) is not showing any impact independently on the developmet of the state. Complementarity of fertilizer consumption with irrigation seems to be the reason for this. Among the three significant variables (X_1. X_2 & X_4) the last one, i.e., X_4, representing consumption of electricity as a proxy for the degree of industrialization, emerges as the most powerful determinant of the development in Indian context. On the whole these variables are able to explain 72.9% variation ($\bar{R}^2=0.729$) in per capita income of the states leaving rest, i.e., 27.1% for the other nonspecified variables.

In the logarithmic version of this equation, i.e., in regression equation (2), we get significant coefficient for log X_1 and log X_4 only. The signs of the coefficients in this equation are consistent with expectation as in the case of equation (1). However comparing $\bar{R}^2$ and F ratio this equation seems to be inferior to equation[1].

The negative relationship between per capita income (Z) and size of the state as seen in the above regression equations is valid for a group of 17 major states taken into account in this analysis. If we take all states into account probably the relationship may turn out to be quadratic, first positively sloping upward and ultimately sloping downward as size of the state increases. We have already argued for this situation in Section 1. Since we excluded the smaller states from the data, so we are getting only the downward sloping side of the relationship corresponding to the larger states of the country. This is not giving us the optimum size of the state. It requires deeper analysis with complete set of data which we do not have.

As argued in Section 2 the relationship between size of the state and intensity of crime is another important aspect of this study. Using the models specified in Section 2, we got the following regression equations about this.

(Variables C=Number of crimes per lakh of population (1971-72) : X_1=Population of the state (crores, 1971) ; Y_1=Percentage of literacy, 1971 ; Y_2=Percentage of urban population 1971 ; Figures in brackets are 't' values)

$$(3)\quad C=76.69045+\underset{(4.51)}{6.60171X_1}+\underset{(0.71)}{0.57415Y_1}-\underset{(-0.056)}{0.06213Y_2}$$

$$\bar{R}^2=0.567\ ;\ F=7.108$$

$$(4)\quad C=96.2259+16.17041X_1$$

$$\bar{R}^2=0.605\ ;\ F=23.01$$

Replacing size of the state by the geographical area (A) in lakhs of square kilometer, we got the following regression equations :

$$(5)\quad C = 36.51425 + \underset{(3.667)}{32.20739A} + \underset{(1.93)}{1.9987Y_1} - \underset{(0.41)}{0.54301Y_2}$$

$$\bar{R}^2 = 0.454\ ;\ F = 4.74$$

$$(6)\quad C = 102.63502 + \underset{(3.09)}{23.50253A}$$

$$\bar{R}^2 = 0.395\ ;\ F = 9.52$$

In these regression equations the co-efficient of the size variables (X_1 and A) are significant even at 1 percent level of significance with 13 and 15 degree of freedom in equations 5 and 6 respectively ; literacy Y_1 (except in equation 5) and degree of urbanization (Y_2) are showing insignificant coefficients. Moreover, the signs of their coefficients are contrary to the expectation. This may be partly because of the misspecification of the equations or multicollinearity among the explanatory variables. Whatever be the reason, we are ignoring them since they are insignificant. The only conclusion we get from these regression equations is that in our country the intensity of crime increases with the size of the state measured either by population or geographical area. The population variable (X_1), used as a proxy for size of the state, is able to explain around 60 per cent variation in the intensity of crime (Ref ; $\bar{R}^2 = 0.605$ in question 4) but geographical area (A) only explains around 40 per cent variation of C (Ref : $\bar{R}^2 = 0.395$ in equation 6). Thus the above equations are far form being called as complete explanatory models for the intensity of crime. Around 40 per cent variation of the intensity of crime is attributed to variables which we have not specified or which are unknowns. The line of arguments for the relevance of size of the state as an important determinant of the intensity of crime has been given in Section 2. The above regression equations support or prove that. In our country larger states are characterized by poverty, differential opportunities and crimal behaviour of certain sections of population such as dacoits in U.P., M.P. and Rajasthan. Moreover, in relation to their size, the police administration is quite inadequate. Under such conditions a positive relationship between intensity of crime and size of the state is obvious.

4. Conclusions and Policy Implications

The results presented in the above section have important policy implications. Development and control of crimes are supposed to be major objectives of a modern government. The situation in India is such that larger states are poorer and have greater intensity of crime. It means they fail to achieve these two objectives. They are having the curse of size or what we call in our terminology as diseconomies of scale. To avoid this situation it is desirable to reduce the size of such states. By doing so the effectiveness of state as an agent of development and law and order maintaining body is bound to increase. The examples of Haryana and Punjab are before us in support of this contention. Both of them are having higher level of development and lower intensity of crime as compared to larger states.

The existing organization of states in the country is based on political consideration alone. The States are political regimes. This is evident from the existence of too small states like Manipur. Tripura and Sikkim along with too large states like U.P., M.P., and Bihar. We need a new set up of states based on economic and administrative efficiency criteria and at the same time satisfying the political aspirations of the masses. In this context an immediate question arises regarding the optimum size of the state. It is difficult to say anything about this from the limited information we had about the states in this paper. It requires intensive study of the politico-economic conditions of the states in the form of a system model similar to that of Tinbergen's 'Theory of the Optimum Regime' (Tinbergen, 1959). Then only some meaningful decision can be taken about the optimum size of an Indian state.

Foot Note and References

1. For full discussion on determinants of crime see Marshall, etal, (1973).
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Restructuring of Banks in India : Panel's Approach

Vasant Desai*

The Banking Commission set up to restructure the 22 public sector banks, under the Chairmanship of Shri Manubhai Shah in July 1976, has made some progress. The Commission has resorted to inviting the public opinion on grouping of banks, mobilisation of savings, advances inspection and public relations, banking education and motivation of the staff. To solicit the opinion of the public, the Commission has issued a questionnaire in the context of larger responsibilities devolving on the banking system in the implementation of various socio-economic policies and programmes. The questionnaire consisting of 24 questions, is addressed to citizens, public workers, experts, academicians, economists, agriculturists, small artisans, professionals, industrial and business circles, cooperative credit bodies and self-employed persons to elicit their advice in micro and macro planning of the banking organisation. The second set of the questionnaire is meant for experts in banks and management.

Further, the Commission has issued guidelines by indicating three alternatives for the regrouping of the existing banks. The Commission has suggested that (i) the State Bank of India with its seven subsidiaries be merged into one and a national bank be set up merging all the 14 nationalised banks into one corporation ; (ii) to merge only the weak subsidiaries with the State Bank and leave the rest to be merged in the national bank along with the 14 nationalised banks ; and (iii) to merge the subsidiaries with the zonal banks. This apart, the Panel has called for opinion in regard to the transfer of the ownership of State Bank of India wholly to the Central Government and whether the public sector banks should be merged as a single corporation or divided into four subsidiary corporations with an apex body (herein the Commission has in mind the two organisations like Life Insurance Corporation of India and the General Insurance Corporation). Other questions raised by the Panel are summarised as under :

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1. The delegation of functions and powers amongst the managing directors, the general managers, regional managers and the branch managers in the new reorganised system.
2. What steps should be taken to mobilise savings in under banked states and areas and what should be done to safeguard the deposits in private sector banks and non-financial institutions.
3. Whether the numerous deposit mobilisation schemes by different banks should be rationalised.
4. How the unorganised sector and more particularly the weaker sections of the community can take advantage of each item in the Prime Minister's 20-Point Economic Programme.
5. What manner of coordination can be suggested to minimise the over-lapping of different agencies like the public sector, private sector, cooperative, land development and regional rural banks, operating with their credit schemes
6. The area of inadequacy of credit be specifically highlighted.
7. Simplifications and rationalisation of banks' procedures and forms.
8. Establishment of functional banks to pay special attention to some of the identified segments of the economy which have great promise and potential for growth and benefit to the national economy. These sectors are (i) tourism, (ii) housing and construction, (iii) import and export, (iv) agriculture, (v) industry, (vi) wholesale trade, etc.
9. Would it be advisable to create a central inspectorate of banking under the Reserve Bank of India.
10. Whether it is advisable to open more branches in rural and under-banked areas.
11. What are the steps to be taken for the motivation of staff to put in better and more efficient services and deeper involvement in the banking industry.

The banks are expected to provide information on the history and growth of banks, the performance of the banks under the 20-Point Economic Programme, coordination with state governments, organisation and management, personnel policy, planning of industrial relations and staff welfare, foreign operations, redress of public grievances, spread of banking habit, profitability and working results of banks.

A review of the questionnarie issued by the Banking Commission raises some fundamental issues. The Central Government appointed the Commission to examine the existing organisational structure of the 22 public sector banks, keeping in view their existing and prospective geographical functional coverage, the present stages of management development obtaining in them and also the need for preserving and promoting factors motivating the employees.

The reorganisation of the banking structure is to be based upon the indepth study of the longterm perspective development of banks in the next twenty—twenty-five years, their management capabilities and the service viability. This is to be determined by the experts in banking, organisation and methods, management and the economists, who are specialised in banking and monetary economy. Since the managers in the banking sectors are averse to any change, soliciting their opinions will not serve the purpose. Instead, the Commission should have appointed three to four study groups to make an in-depth study of the organisation pattern, perspective banking development and management and control of banks and recommend suitably. The Banking Commission would have drawn on the services of special institutions or a body of independent people who have specialised in the field. Thereafter, the Commission should have discussed the various recommendations made by the committees and the Commission should have formulated their own recommendations to the Government for implementation.

The Commission should have also drawn on the wealth of information collected by the Working Group on Banking Costs, Operational Efficiency and Profitability of Commercial Banks under the Chairmanship of Mr. J. C. Luther (Mr. Luther is one of the members of the Commission) and of the Working Group on Customers' Service and their recommendations. The Luther Committee has collected information under the following heads: (i) General ; (ii) Business Plan and Performance Budgeting ; (iii) Systems and Procedures ; (iv) Banking Cost ; (v) Pricing Policy ; (vi) Operational efficiency ; (vii) Profitability ; and (viii) Productivity.

Instead, the Commission adopted a strategy which is quite time-consuming and irrelevant. Banking is a specialised field and on this vital issue how the views of the public will have a bearing on the reorganisation ? Banks are not functioning according to the public opinions or views. Further, the Panel has given only four alternatives of reorganisation and has called for suggestions from the public.

Should this be taken as the determined goal or recommendation of reorganisation ? One does not know. It is also to be known whether the Commission will abide by the public opinion. And the other eleven questions have no relevance in the present context. Detailed published materials are available on these various topics.

In this paper an attempt has been made to analyse the Panel's suggestions regarding the four alternatives for regrouping the existing public sector banks and focus on the relevant issues that are to be considered in the reorganisation and offer a few suggestions and/or alternatives, which the Commission may also consider. The objective of the analysis is mainly to elicit the opinion of the experts in the field and also educate the public in understanding the issue.

The Panel's first suggestion in regard to reorganisation or regrouping of 22 public sector banks consists of three alternatives. As a first alternative, it has suggested to create two banking corporations with merger of seven subsidiaries with the State Bank of India and to set up a national bank merging 14 nationalised banks into one corporation As at end-June 1976, deposit level of the State Bank Group stood at Rs. 4,348 crores (28.9% of the total). The level of deposits increased by Rs. 3,109 crores, from Rs. 1,239 crores at end-June 1969 to Rs. 4348 crores, registering a growth of 250.9 per cent during the seven years of nationalisation of 14 major banks. The average yearly growth of deposits works out to Rs. 444 crores However, during 1975-76, the annual accretion of deposits was of the order of Rs 784 crores. On the basis of the historical data the expected level of deposits is likely to be of the order of Rs. 12,000 crores in 1983 (annual average growth of Rs. 1100 crores) and Rs. 25,000 to Rs. 30,000 crores in 1990. Similarly, the level of deposits of the 14 nationalised banks increased by Rs. 5,726 crores, from Rs. 2,633 crores to Rs. 8,359 crores, registering a growth rate of 217.5 per cent during the post nationalisation period. The average yearly growth of deposits in absolute terms works out to Rs. 818 crores. However, the tempo of growth has picked up and the total accretion of deposits was of the order of Rs. 1,369 crores. On the present trends, one may estimate that the level of deposits of the 14 nationalised banks is likely to be of the order of Rs. 20,000 crores (average annual accretion of the order of Rs. 1,500 crores) in 1983 and Rs. 40,000 to Rs. 45,000 crores in 1990. The other activities of the banks are inter-related with the growth and level of deposits. Having determined the magnitude of deposits and the scale and scope of banking business, one has to give second thought, whether it is economically viable to regrouping the existing banks into two national banking corporations. If the present pattern of management of banks is any indication, it is not worthwhile to create two monolithic organisations. Banking is a specialised institution and cannot be compared with the organisations like Life Insurance or the General Insurance. And, with the largeness of the organisation, the efficiency, productivity and control diminish.

The second alternative is similar to the first with a marginal difference that a few of the viable subsidiaries of the State Bank may be merged with the other national bank. Herein too the earlier comments hold good and are not acceptable.

The third alternative is to merge the subsidiaries with the zonal banks. The Panel has not indicated the number of zonal banks it has in mind. It has only indicated whether the pattern of organisation will be like L I.C. or General Insurance with four subsidiaries with an apex body. Even if we assume that five zonal banks out of 22 public sector banks are created, the average volume of business that these banks are likely to handle will be of the order of Rs. 10,000 crores in 1983 and Rs. 13,000 to 15,000 crores of deposits in 1990. Equally will be the increase in advances and investments portfolio of banks. The enormous increase in banking business during the next 14 years has to be taken into account in reorganising the banking system. At present, even some of the banks with resources of Rs. 300 to 400 crores are not managing their affairs in a proper way then how the present management is likely to handle the enormous business operations ? To manage this change and growth, the bank's organisational structure has to be changed following the changes in the social, economic and political environments. The banks have to be decentralised with a view to meeting the varied demands made upon the banking sector by the varied segments of the economy. Alternatively; the banking sector may go for a larger number of unit banks.

The study conducted by C. Rangaranjan and Paul Mampilly at the instance of the Banking Commission shows that the marginal cost as percentage of deposits goes on decreasing initially with the bank's size until it reaches the size of around Rs. 300 crores of deposits, but thereafter marginal costs go on increasing and profitability of banks declines. This was substantiated by S. Singh in his study on 'Profitability of Nationalised Banks'. Accordingly, the rate of profitability increases with the rise in deposits. It is only in the highest slab of deposits of Rs. 801—1000 crores that the profitability ratio has remained stationary, in other words, the law of diminishing profit has been put into action. In the Indian context, the profitability ratio is positively correlated with the size of a banking unit. The incremental profitability ratio seems to be maximum between the deposit range of Rs. 201—400 crores and Rs. 401—600 crores. Thereafter the rate of growth slows down, although it still continues to increase in absolute terms. This aspect of banking also calls for smaller banks, rather than monolithic banking corporation.

The fourth alternative indicated by the Panel regarding setting up of functional banks has not received any support since specialised financial institutions like I.D.B.I., A.R.C., H.R.D.C., E.C.G.C., I.F.C., I.C.I.C.I., S.F.C. and others already catering to the needs of the customers and performing the functional duties of banks. As such, there is no need for setting up functional banks.

To sum up, the Panel's approach to the reorganisation of the banks suffers from a number of constraints and calls for in-depth study of the problem in perspective development. And, the four alternatives suggested by the Panel regarding the regrouping of the public sector banks are not appropriate from the point of view of development, productivity, efficiency, viability and service. The Panel may have to find a solution in considering other alternatives including the setting up of 130 Unit Banks (incorporating the 50 regional banks in India).

Level of Living of Agricultural Labour in Bihar : Case Study

Mohammad Anwar Alam*

Introduction

Quite a large proportion of population in our country is below the poverty line. The government has been endeavouring to narrow down inequalities in the distribution of wealth and income with a view to ameliorating the condition of the poor section of the population. The poverty problem is particularly severe among the agricultural labour which constitutes a big majority of the weaker section in the rural areas. In this period of national emergency when efforts are being made to help the weaker section of the society, a study of the trend in the level of living of agricultural labour obviously claims serious attention.

In the course of our reeerch work for the doctoral dissertation we have come into close contact with some of the rural areas of North Bihar. This is the basis of the profile of the level of living of agricultural labour house-holds that we present here. While doing this we did not forgot the fact that the concept of level of living is comprehensive one and a quantitative measurement of it is a difficult task. This concept requires the sizing up of the total life sitution and as such cannot be wholly a monetry concept or even an economic concept. It includes the scale of perference and satisfaction of wants of individual members in a family as also collective wants of groups and communities. The level of living also depends upon general economic and social developments brought about by the state action which helps the individual to lead a better life. As such, qantitative mesurement of level of living confined to family size, earnings, strength and consumption expenditure which we have attempted in our study is a restrictive and rough indicator of level of living.

Ours is the study of agricultural labour households which have a very low level of income. Consumption expenditure particularly of much low income groups is considered in a good indicative of level of living and a better indicator than income for the quantitative assesment of level of living. Income of agricultural labour household is low and there is no question of preference of goods and services on which money should be spent. It is rather a problem for them to make both ends meet and oftener than not they have to resort to borrowing. Facilities of borrowing is also extremely limited because of their slender means and non-credit worthiness. It is against this background that their level of living has been viewed.

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The present study relates to the village Khirnia of Monghyr district in the state of Bihar and is based on the primary data collected by the author.

Agricultural labour households were classified into two categories, i.e , causal and attached depending upon the nature of employment done by the head of the family Family was taken as the economic unit and each agricultural labour household has covered for the collection of data. Data for income were collected for the household taken as a whole. The earning of all earners and earning-dependents as also the income of the family accuring from property, cultivation of land, either owned or taken on lease, livestocks, etc were accounted. Earners included wage earners, nonwage earners and earning dependants, and were composed of men women and children. The data were collected and tabulated for the following main sources of income :—

(i) Cultivation of land,
(ii) Agricultural wage,
(iii) Non-agricultural wage,
(iv) Others.

The item 'Others' included the family income from the sources other than farming and other miscellaneous sources

While collecting data for consumption expenditure only the expenditure incurred in the purchase of domestic consumption were taken into account, expenditures of capital nature were not included. Savings and investement which might help increase income in future, and certain items of disbursement such as repayments of debts which reduce the available income were also excluded. Data on expenditure incurred on purchase of domestic consumption were collected in detail so that all items on which expenditure were incurred by a given sample household during the reference period could be duly accounted for. With this purpose in view to examine the household expenses and their distribution on various nonfood items of consumption, the data were collected for clothing, health, education, social ceremonies and housing, etc.

In case of food items and intoxicant the reference period was seven days preceeding the date of survey. In other consumption group the reference period was three months preceeding the date of survey. This was done with the view that a week's figure would not give sufficient information for expenditure on items like clothing, medicine, education, etc. Annual estimates of consumption expenditure was built upon the expenditure incurred in reference period.

Income of Household

Aggregating the data collected on the family income, the average income of the agricultural labour households comes to Rs. 1260/—per annum. In the two categories of households i.e., casual and attached the figure for annual income has differed much. The attached labour household is Rs. 1307/- per annum, which is about hundred rupees more than that of casual labour households and about fifty rupees more than that of agricultural labour households taken as a whole (Table 1). Here it would be proper to mention that the income of the agricultural labour household is influenced among other factors by the size of the household and the number of the wage earners in the household. The size of the family varied from household to household and hence for a proper appreciation of the economic position of the famity it would be necessary to reduce the family to a common denominator and to have figures for per capita income. In Table 1 per capita income of the household has also been given to judge the comparative position of the households. The better income position of attached households is further proved by their per capita income of Rs. 542/- per anum as against Rs. 209/- for casual household and Rs. 228/- for household taken as a whole.

Table 1

Average Annul Income and per Capita Income of the Household

(In Rupees)

Households	Household income	Per Capita Income
Agricultural Labour Hohusehold	1260	228
Casual Household	1254	209
Attached Household	1307	242

Table 2

Average Annual Income of Agricultural Labour Households from Different Sources

(In Rupees

Source of Income	Agricultural Labour Household	Casual Household	Attached Household
Agricultural Wages	940. (74.5)	922 (74.1)	982 (75.1)
Non Agricultural Wages	210 (16.7)	241 (19.4)	187 (14.3)
Land	47 (3.8)	25 (2.0)	70 (5.4)
Others	63 (5.0)	56 (4.5)	68 (5.2)
Total	1260	1244	1307

N. B. Brackets show the percentages.

Table 2 shows the importance of agricultural wage as the major source of income to the labour households Though its percentage share to the income slightly varies for the casual and attached households, it is well above 74 percent for both categories of the households. The next important source of income for the agricultural labour household is nonagricultural wage, which contributes 16.7 percent to the household income. Its importance is more for casual household when it comes to 19.4 percent. In case of attached household it is significantly as low as 14.3 percent. However, income from agricultural wage to the household in any particular area differs due to several factors. More important among them are the average number of wage earners in the household, prevailing wage rates in agricultural and nonagricultural operation, employment available in and outside the agriculture and the avaibility of wage earners in terms of men, women and children.

Share of income from land is the lowest in the total income. It is only 3.8 percent of the total household income This is obviously because of the fact that most of the agricultural labour households do not possess any land, and the land they possess is generally small in size and poor in fertility. The land is also not utilised properly. Such households which have land on lease or on share cropping basis get a very small portion of the total produce. A major portion goes to the landowner as share and as repayment of loan taken on the eve of crop sowing. In the recent years due to the measures of land reforms like fixation of ceiling on land and abolition of intermediaries, the scope of taking land on lease by agricultural labour has been restricted.

Income from 'other' sources is a bit higher than income from land. It brings 5 percent as its share to the total household income. As stated earlier the item 'others' included income from occupation other thon farming and other miscelaneous sources, such as income from self-enterprise of the member of the family, livestocks, sales of wood for fuel, gifts and charity. Income from self-enterprise was generally very meagre due to the lack of economic resources available to the household or individual earners. In the miscellaneous source major portion of income came from the sale of fuel wood collected from the forest and from gifts of the landlords.

Income from different sources to the attached and casual labour households shows some distinct trends In both the cases the major portion of income comes from the wage-paid employment, but as compared to casual labour households the proportion is smaller for the attached households. In case of casual households agricultural and nonagricultural wage together provided 93.5 percent of the total household income, as against 89.4 percent for the attached household. From employment's point of view attached labourers are compratively in a good position than casual labourers but the average wage earned is less than that of casual labour households. This was probably due to the exploitative factors, such as, attached labourers are under obligation to work for their employers even at the low wage all through the contract period and are not free to seek employment elsewhere.

It is interesting to note that for attached labour households income from land is more than that of casual houesholds. In attached households land added 5.4 percent to the total income as against only 2 percent in case of casul households. Due to attachment with the employers attached labourers are given land on lease. There is the practice with a few landlords to give an attached labour a small plot of land instead of any monthly payment. Depending upon the village custom half or full of land produce goes to the labour family.

Proportion of income earned from other sources is higher for attached labour than that of casual labour, which is 5.2 percent and 4.5 percent respectively. This is probably due to free collection and gifts from the employer due to attachment.

Expenditure and Level of Living

Table 3 shows the gap between income and expenditure of agricultural labour households. The average annual expenditure of agricultural labour household is considerably higher than income, the deficit being Rs. 168/-. The comparative positions of income and expenditure in casual and attached labour households reveal some interesting features. Attached households recorded Rs. 1307/- as their annual income which is Rs. 63/- more than that of casual households. The difference is more prominent in the annual expenditure of attached and casual households. Average annual expenditure of attached households comes to Rs. 1534/- which is Rs. 174/ more than that of casual household (Rs. 1387/-). The annual deficit for casual household is of Rs. 143/- while for the attached household it has gone up to Rs. 227/-.

Table 3

Average Annual Income and Expenditure of Agricultural Labour Household

(In Rupees)

Households	Average Annual Expenditure	Average Annual Income	Deficit
Agricultural Labour Household	1428	1260	168
Casual Labour Household	1387	1244	143
Attached Labour Household	1534	1307	227

The low income of agricultural labour households usually falls short of their requirements. Their borrowing capacity is also limited due to their noncreditworthiness. Other ways open to them are liquidation of assets, if any, such as sales of real assets like livestocks, land, house, etc, and by transfer receipts, such as loans incurred and realised, charities, gifts and other receipts. These items help greatly the expenditure side of the budget, while in one calculation of the income of the household these items did not find a place. Apart from that cash values of items obtained free, such as fuel collected from jungles, fish, foodgrains picked up from thrashing ground, etc, which were included on the expenditure side, were very likely to have been left out of the income account. All these items together are responsible for the difference in the household budgets.

Comparatively higher expenditure than income in attached households is mainly because they can borrow from their employer on easy terms as well as can get other benefits of receipts, charity and gifts, due to their closeness with the employers.

Table 4
Consumption Expenditure on Different Items in Different Categories of Households

(In Rupees)

Items of Consumption	Ag. Labour Household	Casual Household	Attached Household
Food Items	1319 (94.4)	1316 (94 9)	1440 (93.9)
Non Food Items	38 (2.7)	27 (1.9)	56 (3.6)
Intoxicant	41 (2.9)	44 (3.2)	38 (2.5)
Total	1428	1387	1543

N.B. Brackets show the percentages.

A breakup of expenditure on different items of consumption as given in Table 4, speaks of the very low standard of living of agricultural labour households. They spend 94 percent of their income on food items and of the remaining, expenditure on nonfood items was 2.7 percent and on intoxicant 2.9 percent. The average annual expenditure on intoxicant has been calculated separately to show its importance in the consumption expenditure of the agricultural labour households. Intoxicant consisted of items like tobacco, biri, chewing tobacco, tari, bottle, liquor, etc. Smoking biri, chewing tobacco and drinking 'tari' are the great favourites of agricultural labour community. In case of agricultural labour households taken as a whole the percentage expenditure on intoxicant is higher than that of nonfood items by 2 percent. Intoxicant helps the agricultural labour to get over the physical strain and possibly this is the only relief they can afford. Use of 'tari' is very much common in the month of Baisakh (May-June) when agricultural labourers are generally unemployed.

In absolute terms the annual expenditure on food items in attached households is Rs. 1440/- which is Rs. 124/- more than that in casual households. But in terms of percentage the difference is only one percent. A comparative study of expenditure on nonfood items and on intoxicant in case of casual and attached households reveals some interesting features. In the consumption budget of attached households expenditure on nonfood items is Rs. 56/- which is 3.6 percent of the total consumption expenditure. The percentage share of nonfood items in the consumption budget of casual household is only 1.9 percent which comes to Rs. 27/- in absolute terms. As against this the share of intoxicant is relatively more in the consumption budget of casual households. In casual households whatever they earn out of the daily wage is hardly sufficient for two times meal. The question of saving something for nonfood items such as clothing, housing, education, medicine, etc. does not arise at all. Like any individual, for agricultural labour also, clothing is next only to food. But duo to meagre income and low standard of living the expenditure on clothes is much below than any other class of the society. The amount of Rs. 27/- per annum is hardly sufficient even for one piece of cloth for all members of the family. The adult male and female members of the family can only manage a 'dhoti' or a 'lungi'. Children mostly remain naked.

Expenditure on medicine was nil. So far as the condition of health of agricultural labour is concerned, we found that the adult male labour is generally in good health. The common practice with the agricultural labour is that at the time of illness in the family medical help is not sought for. They simply rest on the bed and do nothing. Sometimes they rely on household treatment by indigenous drugs and sometimes on the services of 'Ojhas' and 'Fakeers', which cost them nothing. They go to doctors when the disease becomes serious and in some cases fatal.

An agricultural labour household spends nothing on education, because children help their parents in field or by their earnings, however meagre these might be. They do not send their children to school as they do not see any direct financial interest in it. Expenditure on housing and its repairs was also nil. The houses are usually walled with mat, roofed with thatch, and floored with dry mud. The repair of the house by the family involves no cost. They obtain all the materials for their house free of cost.

The reason for comparatively higher expenditure in intoxicant of casual households can be found in their casual nature of work. As compared to attached labour they are free to indulge in habit of drinking tari. Unlike biri and chewing tobacco, tari is more expensive as well as intoxicating. In some cases it has been seen that the habit of drinking tari has resulted in other bad habits of stealing, gambling and idleness.

Conclusion

The above facts and figures highlight the very low standard of living of agricultural labour households. Their consumption budget even with a deficit of Rs. 168/- per anum is not sufficient for one time meal for their family members. The actual prevailing practice is that whatever they earn daily either in cash or kind, they spend for their meal. They take one meal at night only, which normally consists of rice or bread made of wheat, or some coarse pulse flour. For taste they add some salt or onion mixed with salt. Very occasionally they get some vegetable. If something is left out of night's meal, they share it in the morning for their breakfast. Normally the wage earners get their breakfast from their employers, as a part of their wage.

Half fed, half naked agricultural labourers can be seen anywhere in the village working in the field. Houses where they live seem rather a store than a place to live in. Man and cattle live in close proximity, mosquitoes and flies swarm and rats abound in the huts. The agricultural labour, who rises at dawn and go to bed soon after sun-down, spends little time inside their huts except at night.

Standard of living of attached labour households was found to be slightly better than that of casual households. Though for the attached labourer there is the loss of individual freedom, they secure compensatory advantage in the form of security of job, lands for share cropping, loans on easy terms and other benefits of free collection of fuel wood, vegetable, used clothes, gifts and charities.

For the betterment of the lot of agricultural labour the first step should be to increase the employment opportunites for them. Here, the multiple cropping system can be of great advantage, as it will help in reducing the seasonal unemployment of agricultural labour. With some institutional credit facilities they can be encouraged for self-employment in allied agricultural operations, such as poultry, dairy farms, etc. Encouragement should also be given to the existing cottage industries running on old traditional lines. With the improvement in the employment position, the agricultural labour would themselves bargain the wage rate to rise. Instances are there when in the peak season of agriculture, the wage rate goes up due to the scarcity as well as bargaining power of agricultural labour. The Minimum Wages Act in case of agricultural wages has so far been quite ineffective due to so many limitations in its practical application. Distribution of surplus lands among the landless labourers will help them a great deal in stablising their status and to ease the bond of big landlords upon them. They should also be given some cultivable lands for self-cultivation either on individual or cooperative basis.

Regional Variations in Andhra Pradesh

D. L. Narayana[*] and K. Narasimhulu[**]

A region can be analysed from several points of view, e.g., geographical, economic, historical, social and political including administrative. The levels can range from international to inter-State within a nation and intra-state within a State.

The main reason for regional variations in a developing country like ours is the absence of close relationship between the industrial and agricultural sectors. India is an agricultural country and the majority of people are depending on agriculture. Nearly 70 to 80 per cent of the total population is engaged in agriculture and it contributes more than 50 per cent of the national income. Therefore, in order to achieve regional balanced economic development both agricultural and industrial sectors should receive equal treatment. Because the development is realised only when a profound agricultural transformation finally facilitates industrial growth by creating better and wider markets. Supply of improved seeds, modern tools and techniques, chemical fertilizers, credit facilities, etc., to the farmers can work as means towards reducing regional variations.

There are also some other factors which cause for regional variations like those of lack of infrastructure facilities, lack of storage and marketing facilities for the agricultural products, lack of sufficient incentives to the entrepreneurs, lack of creation of employment facilities to the educated unemployed persons, etc. Similarly human capital formation involves expenditures on skill formation in the form of education and training and expenditures on health and medical facilities.

Above all, demographic factors should place an important and crucial role in identifying the regional variations. For this purpose one of, the States in India, i.e., Andhra Pradesh, which occupies the fifth position both in area and population, has been selected to study the regional variations.

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Andhra Pradesh with an area of over 2,76,754 sq. km and a population of 43 5 millions at the 1971 Census is the fifth largest among the States in India in area and also the fifth most populous State of the country. In 1961 Census the State had occupied the fourth rank in the size of population and there is a sudden shift in its rank position of population by one step back. Its population is double that of Canada, more than three times that of Australia, and many times larger than that of several countries in Europe. In this large populous State there are areas vastly varying in their physical characteristics; some covered with rich coastal alluvium and others made up of hard rockey soils with areas of clad thickly forests. The average rainfall varies from over 1200 mm in some regions to just 50 mm in others Different areas of the State have different backgrounds of political and administrative history

For the identification of backward areas certain objective criteria have been selected with suitable indicators. At various occasions and for different purposes different bodies or agencies have selected indicators of backwardness.

At the national level both the Finance Commission and the Planning Commission have in connection with certain specific issues selected certain indicators of backwardness, e.g., the per capita gross value of agricultural production; per capita value added by manufacture; percentage of population to the total population; percentage of enrolment in Classes I to V of the population in age group of 6-11; population per hospital bed; percentage of rural population to total population and percentage of population of scheduled castes and tribes to total population.

At the State level in 1965, the State Government classified various Community Development Blocks in the State into 'Advanced', 'Ordinary', 'Backward' and 'Tribal' on the basis of six characteristics as per capita land revenue assessed within the blocks, percentage of irrigated area to cultivated area, percentage of the children in the group 6-11 attending schools, district-wise literacy rate, district-wise income and road mileage for 100 sq.miles within the block. However these criteria are also subject to certain important limitations and will not therefore be an adequate classification of measurement for backward areas.

Even in the case of NCAER Study, when the State Government of Andhra Pradesh requested to prepare district plans for two backward districts in the State in 1968, the NCAER did a ranking of districts on the basis of such criteria like population intensity, per worker cultivable area, per worker net sown area, mileage per lakh population, per capita income, etc., and selected 14 indicators. The Pande Committee also in 1968 found out the regional imbalances.

The selected characteristics of regional imbalances and above all the recommendations of the suggested bodies and committees are somewhat new. Most of the characteristics have been taken from the Census analysis. In order to find out the regional imbalances deep in detail, the taluk is taken as a basic unit.

One of the characteristics that can be undertaken in calculating the advancement or backwardness of a particular state or district or taluk is the density of population per sq. km. But this mere characteristic of density is not a deciding factor of development or prosperity unless it can be supported by some other factors.

The next good indicator of progress is the urbanisation, i.e., the percentage of urban population to total population. In this present existing world, the word 'urbanisation' itself reveals to one's mind about the factors of technology, a good advancement in education, an avenue for the exchange of ideas, the administrative headquarters which are the centres for the day-to-day business, trade and industry. These urban centres are the foci of communications and also the centres for the decentralisation of services, knowledge dissemination, the ideas among residents and the people of the neighbourhood.

Coming to the importance of literacy and its effects on the development of a particular area, where majority of the people do not know about the three R's, the literacy progress holds the key factor for the future development of the people and the area. The relative extent of this literacy among the people should be taken in different regions as a very reliable indicator for the development of a region.

In the backward areas the truism is that the workers among the population may be participating overwhelmingly in the primary sector, i.e., agriculture and household. There the proportion of workers to the non-traditional sectors will also be an indicator of the progress of an area.

Similarly, the women in the more prosperous areas are content with looking after their homes and housewives rather than to participate in work. Most of the females should participate in the primary sector of agriculture in rural areas. So the greater participation of females as workers reflects the backwardness of the tract course. Where there is an equal attainment of prosperity and forwardness in education and literacy rate, etc., the greater participation may reflect larger opportunities for work and the possibility of production of greater wealth, but as the economic and social conditions prevail at present here, the larger participation rates have to be deemed to reflect a somewhat backward state of the condition of the people of that area.

The next important characteristic of development is the progress of the percentage of the irrigated area to the total gross area sown. This can also help us to yield a more realistic picture. This has a vital bearing on the economic prosperity and irrigation potentiality of the state.

From the above characteristics there is some possibility to determine whether a particular area is developed or backward and also the regional discriminations and the degree of differentiations among all. In determining the development of a particular region, the composite index number should play a crucial role and this is the only factor which finalises or recognises the development or backwardness of the region. The state average values of each one of these characteristics viz., the density of population, the degree of urbanisation, the percentage of urban population to total population, the literacy rate, the proportion of agricultural labourers to all workers, the percentage of female workers to male workers, percentage of workers to non-workers, and the percentage of area of agricultural land irrigated are worked out. Then the values under each of these characteristics for the smallest administrative unit for which the data are available are set out, and the percentage of deviation from the state average for each characteristic is also noted.

The most convenient administrative unit of Taluk or Tahsil should be taken in order to calculate or work out the composite index number. On the basis of these units, the State of Andhra Pradesh is divided into 21 fairly large sized districts. The average size of the district is about 13,179 sq. km., and the average population is 20,71,558 according to 1971 Census. Each of the district is further sub-divided into taluks. Each taluk on an average covers about 1419 sq. km with a population of 2,23,091.

At present there are 195 taluks in the State of Andhra Pradesh But according to 1961 Census, being a State of 20 districts, each district was having an average population of 18,00,000 with an area of 13,700 sq. kms. Previously there were 189 taluks and each taluk had an average size of population of 1,90,000. The size it covers in area was 1450 sq. kms. There is a greater change both in size and in population, whereas the size of the State has been reduced and the population stepped up to a marked extent. The main Census for this sporadic change lies in the increasing growth rate of population and the area is kept constant except dividing it still into further taluks for the formation of one more district, i.e., Prakasam. The taluk forms very convenient and well recognised unit of administration. In noting the percentage of deviation of a characteristic, the values are prefixed by a plus or a minus sign accordingly as the value reflects a progressive trend or otherwise. For example, if a taluk showed a higher growth rate of population than the State average of 20.67 per cent during the decade of 1961-71, the percentage of deviation of the characteristic for that taluk is shown by a negative sign. Like this, the calculations have been done for all the characteristics. Even though it is a crude method of estimation, it should give some reliable results to assess the relative progress of areas in an effort to remove extreme disparities.

By computation of Composite Index the following places fall in the highest range of positive value :

Ranks	Name of the Taluk	(Composite index value)
1.	Hyderabad Urban	+ 5889.42
2.	Visakhapatnam	+ 923.14
3.	Tanuku	+ 591.18
4.	Kothapet	+ 548.31
5.	Ramachandrapuram	+ 508.21
6.	Alamuru	+ 476.46
7.	Vijayawada	+ 468.93
8.	Kakinada	+ 457.13
9.	Narasapur	+ 445.08
10.	Tenali	+ 433.31
11.	Guntur	+ 385.92
12.	Amalapuram	+ 385.09
13.	Rajahmundry	+ 378.75
14.	Bheemavaram	+ 370.22
15.	Gudivada	+ 366.81
16.	Razole	+ 360.41
17.	Bandar	+ 336.72

The taluks that fall in the other extreme range of nagative values are :

Rank	Name of the Taluk	Index Value
1.	Utnool	—193.27
2.	Achampet	—187.74
3.	Nagur	—186.84
4.	Yellavaram	—172.47
5.	Paderu	—168.61
6.	Atmakur	--163.54
7.	Kollapur	—160.68
8.	Kalwakurthy	—156.94
9.	Chinnur	—155.86
10.	Alampur	—154.94
11.	Rompachodavaram	—153.96
12.	Manthani	—152.88
13.	Mulug	—149.17
14.	Badrachalam	—147.29
15.	Khanapur	—140.74
16.	Yellandu	—129.22

Hydrabad urban taluk has shown the highest positive value of +5889.42. The positive characteristics of this taluk are mainly accounted by high density of population and a high degree of urbanisation along with a high percentage of literacy. About 99 per cent (95% according to 1961 Census figures) of the taluk's population is urban as almost the entire taluk falls with the limits of Hyderabad City. In this taluk's population, those engaged in primary estimates are also comparatively small. Only 16% of the agricultural workers participated in agriculture. The literacy rate is comparatively high (about 53 per cent and it was 40 per cent according to 1961 Census tables), most children obviously attending schools in the city with its extensive educational facilities. Thus this taluk justifies the high positive value of progress recorded.

Visakhapatnan and Tanuku also show high positive values about +923.14,+591.18 respectively. Visakhapatnam is again predominantly urban, with 77% population of the taluk (69 per cent according to the 1961 Census data) is urban and it has a high density of population. There is also a high percentage of literacy accounted for about 44 per cent during the dacade of 1961-1971. In this taluk it has however been observed that the urban growth is only by the cost of rural migration. By this effect, the rural areas would show ıven the negative values in respect of area irrigated which will ındoubtedly reflect on the rural backwardness. Because of its urban pulling factors and also of the dominating influence of the City of Visakhapatnam, the taluk recorded a high positive value in all other characteristics by offsetting the disadvantage of low percentage of the irrigated area. It became a thriving port today dominating by the establishment of the important ship-building industry for the whole country.

The taluk with high index after Visakhapatnam comes Tanuku owing its high grading to the facilities of irrigation that it commands under the Krishna Canal system and the high density of population. The taluk headquarters town of Tanuku was known to be a cultural centre to which the rich agricultural classes congregate. It is also the centre of considerable rice milling industry.

The other taluks that have shown the positive values, viz., Kothapet, Ramachandrapuram, Alamuru, Vijayawada, Kakinada, Narsapur, Tenali, Guntur, Amalapuram, Rajahmundry, Bheemavaram, Gudivada, Razole and Bandar. The Vijayawada taluk obviously has the high degree of urbanisation on account of the location of the important trade and communication centre and this city seems to have led to the rapid population growth observed well above the state average.

One specific feature of the above all positive indexes of taluks, three-fourths of the taluks belong to Coastal Andhra region and the rest to the Telangana region. Not even a single taluk is there in Rayalaseema district with high positive composite index value. By seeing the above realistic feature, there is a great discrimination and also differentiation in the levels of development among all the three regions in the state of Andhra Pradesh.

Among the taluks with negative index values, it is noticed that the most backward areas are made up mostly of forest covering tribal taluks such as Utnoor, Nagur, Yellavaram. Paderu, Rompachodavaram, Kalwakurthy, Badrachalam and Yellandu. The backwardness of these remote and sparsely populated taluks can be expected. It may be seen that Rompachodavaram. Yellandu and Nagur have no urban population whatsoever. The literacy rate of the local population is as low as 21 per cent in Yellavaram. The local population is largely made up of tribals who are overwhelmingly agricultural in occupation with little avenues for alternative employment. It may be observed that it is not merely the above mentioned interior forest taluks that have shown these poor taluks but also certain plain taluks. The people are completely depending on agriculture. The urbanisation is nil and the literacy rate is very low. These taluks indeed reflect some of the most backward characteristics. Those areas are apparently so much over-shadowed by the Capital City of Hyderabad in the neighbourhood that it seems to have completely inhibited the growth of this hinterland.

It is not possible to discuss about the comparative progress or backwardness of every other individual taluk in the State. However, the statement given in the table seems to reflect truly the comparative stage of progress at which each taluk stands and thus it establishes the possibility of the Census serving as a convenient tool to the planners to determine the areas of relative backwardness or progress with reference to certain simple characteristics of the population objectivity observed in the Census reports.

The following table shows the positive and negative index numbers of all the taluks in all the three regions in the State of Andhra Pradesh.

Total number of taluks with positive and negative values in all the regions of A P.

Name of the State/Region	No. of taluks with positive index	No. of taluks with negative index	Total number of taluks
Andhra Pradesh	76	119	195
Coastal Andhra	52	28	80
Rayalaseema	10	32	42
Telengana	14	59	73

It may be seen from the above table that among the three regions in the State with positive index of 76 taluks, Coastal Andhra ranks with 52 taluks with positive values, Rayalaseema with 10 taluks and Telengana region has only 14 taluks among the total taluks of 80, 42 and 73 respectively. From the other angle of negative index number of the total taluks of 119 in the State, 28 are in Coastal Andhra, 32 in Rayalaseema and 59 Taluks in Telengana region. Most of the advanced taluks could be found only in Coastal Andhra and next in Rayalaseema. Telengana ranks as the least region in progress in the State of Andhra Pradesh. Even in the case of backward taluks most of the taluks (50% of the State) are only in Telengana region, and Rayalaseema region ranks as the middle in this respect also. By this simple statistical analysis, we come to the conclusion that in the development of progress, first stood coastal Andhra, next Rayalaseema and last Telengana region. Out of the 195 taluks in the State, there are 76 taluks with positive index and 119 taluks with negative index.

Let us have a glance further in detail about the taluks in each and every district in the State with composite indexes of positive and negative values.

District-wise distribution of taluks with positive and negative values of composite index number

Sl. No.	Name of the District/State Region	Total no. of taluks	Taluks with positive composite index	Taluks with negative composite index
1.	Srikakulam	11	9	2
2.	Visakhapatnam	11	9	2
3.	East Godavari	14	11	3
4.	West Godavari	8	6	2
5.	Krishna	10	8	2
6.	Guntur	8	5	3
7.	Prakasam	9	2	7
8.	Nellore	9	2	7
9.	Chittoor	11	5	6
10	Cuddapah	9	2	7
11.	Anatapur	11	2	9
12.	Kurnool	11	1	10
13.	Mahabubnagar	12	0	12
14.	Hydarabad	9	4	5
15.	Medak	8	1	7
16.	Nizamabad	7	3	4
17.	Adilabad	10	0	10
18.	Karimnagar	7	4	3
19.	Warangal	6	1	5
20.	Khammam	7	1	6
21	Nalgonda	7	0	7
	STATE :	195	76	119

Prices and Employment Trends in India

Index Numbers of Wholesale Prices in India

(New Series)

(Base : 1961-62=100)

Year/Month	General Index (All Commodities)	Year/Month	General Index (All Commodities)
1962 Average	104.2	1969 Average	168.8
1963 ,,	108.0	1970 ,,	179.2
1964 ,,	119.3	1971 ,,	186.1
1965 ,,	129.1	1972 ,,	200.7
1966 ,,	144.3	1973 ,,	239.3
1967 ,,	166.0	1974 ,,	304.6
1968 ,,	165.3	1975 ,,	309.1
1975—August	311.2	1975—November	303.2
September	309.5	December	294.4
October	308.3		
1976—January	290.0	1976—May	292.3
February	288.3	June	296.3
March	282.9	July	308.2
April	288.5	August	309.9

Source : Office of the Economic Adviser, Ministry of Industry and Civil Supplies Department of Industrial Development, Government of India.

Employment Exchange Statistics

Year/Month	No. of applicants on the live register at the end of the period (000)	Year/Month	No. of applicants on the live register at the end of the period (000)
1951	329	1971	4,602
1956	759	1972	5,928
1961	1,833	1973	7,714
1966	2,622	1974	8,378
1969	3,424	1975	8,917
1970	3,726		
1975—July	9,041	1975—October	9,274
August	9,137	November	9,315
September	9,254	December	9,326
1976—January	9,397	1976—May	9,535
February	9,422	June	9,609
March	9,353	July	9,774
April	9,380		

Source : Directorate General of Employment and Training, New Delhi,

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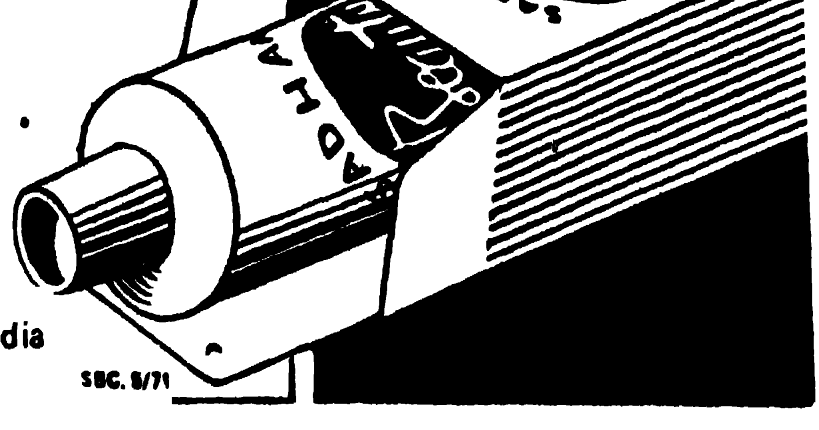

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